

RAILWAY CONVENTIONS NUMBER

JUNE 22, 1940

# Railway Age

Transportation  
Library

JUN 25 1940

**Greater Earnings - Better Service**  
RISE OUT OF



## Big Diesel Economies and Operating Betterments

EMC Diesel Switchers are ready for service at a moment's notice. Time-outs for inspections and repairs are reduced to a minimum. More than 300 EMC Switchers have averaged 94 per cent availability with



locomotive costs reduced 50 to 75 per cent. Faster movements with fewer delays mean more satisfied shippers. Bigger profits because EMC Diesels deliver greatest number of service hours per investment dollar.

**ELECTRO-MOTIVE CORPORATION**  
SUBSIDIARY OF GENERAL MOTORS LA GRANGE, ILLINOIS, U. S. A.

# UNIT TRUCK

## 136,000 MILES OF MAINTENANCE FREE SERVICE



Auxiliary Water Cars are in assigned service where maximum speeds prevail.

Unit Trucks in this exacting service have operated 136,000 road miles without a cent being spent for maintenance. Inspection shows only minute wear on the Unit Brakes, proving conclusively that they will outlast conventional brakes many times.

Compare this record with the results you are receiving in high speed service.

For Safety and Economy specify Unit Trucks.

*Approved for interchange.*

Full information as to licensees authorized to manufacture Unit Trucks will be furnished upon request.

### UNIT TRUCK CORPORATION

140 CEDAR STREET

NEW YORK, N. Y.

Published weekly by Simmons-Boardman Publishing Corporation, 1309 Noble Street, Philadelphia, Pa. Entered as second class matter, January 4, 1933, at the Post Office at Philadelphia, Pa., under the act of March 3, 1879. Subscription price \$6.00 for one year U. S. and Canada. Single copies, 25 cents each. Vol. 108, No. 25

## RAILWAY AGE

---

# Leadership—With Executive Ability—Needed

The most important question confronting the American people is the *leadership* they are going to have in the years immediately ahead; and the people themselves will decide that, either wisely or unwisely.

The word "fuehrer" means "leader," and the main principle of the Nazi system, now so triumphant in Europe, is that of leadership. The Nazi theory is that a nation should have one omnipotent leader; that he should appoint sub-leaders of all military, economic, propaganda and other national activities; that they, in turn, should appoint other sub-leaders all the way down the line; that each of these sub-leaders should have complete authority within his jurisdiction, subject only to the authority of the leaders and sub-leaders outranking him; and that the supreme fuehrer and sub-leaders should be selected and retained solely because of their demonstrated ability to get the results they are appointed to get.

Few people in the United States read much nowadays. Most of them are too busy motoring, going to the movies and trying to get more pay for less or no work. The large majority who read nothing but newspaper headlines apparently believe Hitler made himself the supreme fuehrer of Germany merely by walking into government headquarters by himself one morning and grabbing the job. The fact is, the German people deliberately chose him in the last election in which they were free to vote as they saw fit. The population of Germany entitled to vote in 1933, when this last free election occurred, was only about half as large as that of the United States; but there were more votes cast than in the presidential election in the United States in 1932. Thirteen political parties participated; the total vote cast was about 39 million; and the candidates of Hitler's Nazi party received more than 17 million, the next largest vote, that for candidates of the Social Democratic party, being only 7 million. Hitler came to power because he had appealed with overwhelming effectiveness to the prejudices, hatreds and ambitions of the German people.

He established a very different kind of government from what most of them expected; but there was no good reason why they should have been surprised. He had told in his book "Mein Kampf" ten years before

just what kind of government he would establish and how and for what purposes he would use its power. He had derided and denounced democracy and private enterprise, and made clear he would destroy them by establishing the fuehrer system in both government and industry. He had made clear that as rapidly as possible he would arm Germany to the hilt and start on a career of world conquest. Evidently a large majority of the German people, like a large majority of Americans, don't read much. Apparently most of the statesmen of Europe also did not read "Mein Kampf," or completely underestimated its author's fanaticism and ability.

### Germany Works—France Goes "Popular Front"

Thus far his leadership system has worked perfectly. He first established absolute political and economic autocracy in Germany and put everybody to work long hours. He then armed as he had said he would. And now he has grabbed Austria, Czechoslovakia, much of Poland, Norway, Denmark, Luxembourg, Holland and Belgium, crushed France and is seriously threatening the British Empire. Why has he been so enormously successful? Not only because of his own ability and system, but even more because of unrealistic and incompetent leadership in France and Great Britain.

Three years after he had come to power and had begun the most gigantic efforts, regardless of every human and humane consideration, to increase production in Germany and arm it to the limit, the French people set up a "popular-front" government composed principally of socialists and communists which adopted "social-progress" policies of reducing hours of work, curtailing production (even of armament), increasing government expenditures for "social" purposes, further unbalancing the budget and causing a flight of capital from the country. Subsequently, a government was established in France that faced economic and military facts, increased taxes, reduced social and socialistic government expenditures, curtailed budget deficits and increased production for both domestic and military purposes. In order to carry out these policies it had to



put numerous communists, even including members of Parliament, in jail. But it was too late. Today France lies under the heel of the conqueror.

### **The Lesson from Overseas**

Meantime, Great Britain had as its Prime Minister an amiable old woman with an umbrella named Chamberlain who believed that lasting peace could be made with the madman of Europe by giving him other peoples' countries, and who showed his leadership by leading the British and French to the great surrender at Munich. Apparently he was one of the statesmen of Europe who had not read "Mein Kampf." When Mr. Chamberlain and other incompetent British leaders had been completely licked by Hitler, he was replaced as Prime Minister by Winston Churchill, who had constantly for years warned the British government and people, and the entire world, about the German danger concerning which they were refusing to do anything. And now the British Empire faces the German menace alone.

There is at least one lesson of vital importance in all this for the American people. This is, that in the greatest crisis with which the world and they were ever confronted they imperatively need the very ablest leadership they can get. Whether we go over to the war in Europe, or the war comes over here, or neither happens, will make no difference in our need for the right kind of leadership. We must have it in arming ourselves if we are to arm fast and well enough. Even more important, we must have it to convert our present economic chaos into the order required to secure a vast increase of production and transportation. Our leadership must not only have patriotism and ideals, and ability to talk well, but above all other things it must have very great executive ability. And, unfortunately, executive ability consists of qualities that very few people know or value. It consists of the intelligence and sound judgment to make important decisions quickly and right; of the intuition regarding human nature which selects the right men for all tasks; and of the terrific driving force essential to getting all needed things done.

### **No Evidence of Needed Leadership Here**

There has been no evidence of any such leadership in our government—not at least until it recently appointed Messrs. Stettinius, Knudsen and Budd as members of its Advisory Commission on National Defense. There is no evidence of it in its retaining men as Secretaries of War and of the Navy who have demonstrated no competence for these positions, and other cabinet members charged with important work in connection with military and economic activities whose talents and work have won no encomiums from persons qualified to recognize ability. There has been no evidence of it in decisions for vast expenditures for

military purposes unaccompanied by decisions to make drastic reductions in other government expenditures, and adequately to increase taxes and so redistribute them as to curtail government deficits while avoiding unduly burdening business and production. There has been no evidence of such leadership in the way in which recent strikes and threatened strikes, even in plants producing armament, have been handled. There has been no evidence of it in declarations that, like France in the face of great danger, we should continue trying to promote "social progress" by the same kind of means by which France prepared herself only to receive the heel of the conqueror.

### **Neglect of the Transportation Problem**

There has been no evidence of it, either, in the way in which this country's transportation problem has been dealt with. President Roosevelt promised the Committee of Six he would support any legislative program upon which its members agreed. The only part of this program passed by Congress was a bill requiring the government to pay for the reconstruction of railway bridges necessitated by waterway "improvements"; and the President has now vetoed this bill for the second time. He allowed members of his cabinet and other high officials of his administration to appear before committees of Congress against parts of the transportation bill of 1940, while himself saying he favored it. And after a conference committee of both Houses finally agreed upon the bill he did not raise a finger to prevent it being scuttled by a combination of transportation brotherhood leaders and the waterway lobby of certain parts of Big Business.

The railways must be depended upon for almost two-thirds of this country's transportation for both civil and military purposes. They are suffering from lack of net earnings because of government policies that have protracted the depression, increased their operating expenses and taxes, and diverted traffic to other carriers. If there ever was a time when, in the national interest, the railroads should be given a square deal by government that would help them make the net earnings necessary to enabling them to put their house in order and prepare for all demands upon them, it is now. But the rights of the railroads are being disregarded by the government and their needs, also, excepting when it occasionally inquires whether—in spite of its policies—they are in a good state of preparedness.

The government intervened to prevent a reduction of railway wages in 1938, and through an emergency board appointed by the President, and by the words of the President himself, promised the railways action that would be more beneficial to them than the proposed reduction. But there has as yet been no action in their behalf whatever. What, then, is going to be the government's attitude toward new demands already made, or soon to be made, by the railway labor unions tending to reduce the amount of work that employees must



do for their unprecedentedly high pay, and to curtail net earnings the railways will require satisfactorily to serve the government and the people?

### Kipling on "Peace" and "Abundance for All"

Many years before the present world crisis Rudyard Kipling wrote a poem entitled, "Gods of the Copybook Maxims" — these Gods being, of course, those who throughout the ages have written such wise saws as, "Haste makes waste," "Honesty is the best policy," and so on. Kipling was regarded as just a poet, but

evidently he had learned a lot about the history of the human race; and this poem is so apropos now that we quote parts of it, having the printer set in black face type some portions that today have a singularly familiar sound.

"When the Cambrian measures were forming, they promised perpetual peace;  
They swore if we gave them our weapons, that the wars of the tribes would cease,  
And when we disarmed they sold us and delivered us bound to our foe,  
And the gods of the copybook headings said: 'Stick to the devil you know'."

\* \* \* \*

## Economists Question Below-Cost Rate Theory

Traditional ideas about railroad rates have recently been subjected to attacks as devastating as parachute troops, dive bombers and panzer divisions have been to traditional military strategy. And these parachutists and stukas which have shattered traditional thinking about the rate structure cannot be brushed aside—the theory has got to be changed to accord with the unpleasant facts.

But railroad willingness to face the facts and deal with them is already widespread, and is growing rapidly. For evidence of this, one need only read the report—in last week's *Railway Age* and also in this one—of the hearings on the Senate forwarder investigation. Railroad men do not all agree, by any means, upon the detail of what the solution to the competitive situation in l. c. l. should be. On the other hand, the more energetic managements have certainly not crawled under the bed for fear of the complexities of this situation, but are moving resolutely to meet it.

There has, seemingly, been some hesitancy to "go out after" below-cost back-haul rates by truck, on the ground that railroads need the "out-of-pocket cost" theory in their business, and hence cannot deny it to the "other fellow." That is to say, it is argued in effect, that the railroads must put up with below-full-cost rates by trucks in order that they themselves may be permitted to make such rates.

It is not the purpose of these articles to hand down weighty opinions on these controversial questions, but rather only to turn the spotlight upon the facts—because if the facts are sufficiently explored and discussed, scientifically-minded railroaders can be depended upon to find the right answers. Anyhow, what is needed to meet a totally new and dangerous situation is not strong opinion, but a pervasive curiosity; and courage to face the facts which curiosity brings to light.

Well, then, one of the new and disturbing facts of the present situation which is certainly worth serious attention is the attack that able economists are making on the long-held theory that railroad costs are in large measure independent of the volume of business handled. In the June issue of the *American Economic Review*, Herbert Ashton presents an analysis of railway revenues and expenses in the years 1922-38 inclusive. This discloses that "variations in the volume of traffic are followed

much more closely by maintenance-of-way expenses" than by transportation expenses.

And yet, according to traditional theory, it is maintenance-of-way expense which is, supposedly, one of the principal "constant cost" items in railway operating expenses. That is to say, a large part of maintenance-of-way cost is ascribed to the weather rather than the volume of traffic, and hence, theoretically, would be one of the expenses which could properly be ignored in establishing "out-of-pocket" rates. Similarly, Mr. Ashton's analysis discloses that general expenses, theoretically almost independent of traffic volume, actually do move considerably in sympathy with total revenues.

Bearing on the same point, Kent Healy of Yale University in his remarkable new book on transportation economics\* says that, "under present conditions, costs are made to vary closely with the volume of traffic handled, except where especially light densities are involved. This means that average unit costs for carload traffic do not vary, as much as might be expected, with differences in density of traffic. It follows that the bidding for competitive or additional traffic by quoting low carload rates based on variable costs may easily prove to be unprofitable. . . . The additional cost in the long run may be almost the same as the average over-all cost."

It is not here contended that either Messrs. Ashton or Healy have finally proved the points they make. But their conclusions have at least sufficient plausibility to make it unsafe to ignore them. Because, it would be just too bad if the carriers should accept a destructive below-cost competitive rate device used by their rivals in the belief that the same device is of value to the railroads—at the very time when the justification for the use of this device by the railroads was being quietly undermined.

If "additional costs" and "out-of-pocket costs" for the railroads could (we're not saying they can) be shown to be substantially identical, certainly the railroads will gain nothing and will lose much if "out-of-pocket costs" at a figure, substantially lower than fully-proportional costs, become an accepted practice in rate-making by their highway rivals.

\* *The Economics of Transportation in America*, published by Ronald Press, New York—to be reviewed in these pages in an early issue.

"In the carboniferous epoch **we were promised abundance for all**

**By robbing selected Peter to pay for collective Paul;**

But, though we had plenty of money, there was nothing our money could buy,

And the gods of the copybook headings said: 'If you don't work you die'.

\* \* \* \*

"As it will be in the future, it was at the birth of man—There are only four things certain since **social progress** began;

That the dog returns to his vomit, and the sow returns to her mire,

And the burnt fool's bandaged finger goes wabbling back to the fire;

\* \* \* \*

"And that after this is accomplished, and the brave new world begins,

**When all men are paid for existing and no man must pay for his sins.**

As surely as water will wet us, as surely as fire will burn,

The gods of the copybook headings with terror and slaughter return."

### "Robbing Selected Peter to Pay for Collective Paul"

If the American people are ever to have prosperity and safety again they must learn the lessons of all human experience "since the Cambrian measures were forming." The nations of Europe that had a leadership which "promised perpetual peace" have now been literally "sold and delivered bound to their foe." And why did our leadership in this country, if it is competent, awaken only so recently from its dream of peace? The French had a "popular-front" government leadership such as that which, "since the carboniferous epoch," has been promising "abundance for all, by robbing selected Peter to pay for collective Paul." It believed that by some legislative legerdemain "social progress" could be secured while paying "all

men \* \* \* for existing," and requiring "no man to pay for his sins." But it turned out differently; and those who believed it will now take their orders from Hitler.

"As surely as water will wet us, as surely as fire will burn," we will have a similar experience unless we swiftly learn that wishes are not horses—or tanks, either; that "abundance for all" cannot be secured "by robbing selected Peter to pay for collective Paul"; and that "if you don't work you die." We need now, above all things, a leadership which will tell our people the truth about what they are confronted with and must do; which will not mislead them into believing that they can have safety and "abundance for all" unless all will willingly make all the efforts and sacrifices essential to securing them; and which can and will adopt and *execute* all necessary policies, economic and military.

This does not mean that we must establish political and economic totalitarianism here ourselves to avoid having it forced upon us from abroad. But it certainly does mean that we must have a leadership which will release, stimulate, organize and lead all the energies of a free people and a system of private enterprise—and that bars the kind of starry-eyed and effeminate leadership which in most of the countries of Europe has given Hitler his chance to crush them and left the British Empire to meet his onslaught alone. Hitler talked himself into power in Germany; but he and his sub-leaders have shown they can organize and act with the most terrifying efficiency and effectiveness. No doubt we need leadership that can talk well; but, far more than that, we need leadership of the most conclusively demonstrated executive ability.

### A Message Almost as Appropriate to Railroaders in U. S. as to Canadians

S. J. Hungerford, Chairman and President of the Canadian National Railways, has sent the following message to all officers and employees of the System:—

"To my co-workers on the Canadian National:  
"We face a ruthless enemy. It is true that distance now separates us from the inferno of battle, but there is a front line in Canada no less than in Europe. For Canadians that fact constitutes an emergency to be met with immediate resolve. When our kinsmen of the Canadian forces, naval, land and air, are in the war zone, at a time when the Allies have received and sustained hammer blows of a weight and ferocity unknown in past wars, the duty of Canadians at home stands clear. Now we must accept grave duties and responsibilities and recognize that the need is immediate and imperative.

"The Allied armies have performed great feats but they need material, material and yet more material. These requirements demand that industry produce at utmost capacity, that transport carry munitions and supplies promptly, swiftly and efficiently.

"That is the task of the Canadian National Railways, the task of every individual member of the System no matter where he, or she, may be employed.

"We are all proud of the loyalty, the efficiency and the good spirit of the men and women of the National System, but all must now excel themselves in their daily tasks that by so doing they may support the men in the field. We have been doing a good job; we must do even better and I ask every employee in every department of the System to throw his whole energy into his daily task. The soldier in the field has scant respite. Support him. Do your job better than you have ever done it before.

"The work of civilians in the factories, on the railways and in the ships, combined with the gallantry and fortitude of our soldiers, will yet bring victory, but our cooperation must be instant, continuous and complete. As the Prime Minister of Canada has said, 'this nation with all the strength of its youth, the wealth of its resources, and the idealism of its freedom, will proudly accept its new responsibility.'"

# Mechanical Division Meeting Will Discuss Eleven Reports



F. W. Hankins, Division Chairman

An address by C. H. Buford and a special report on inter-crystalline boiler cracks are also on program next week

**T**HE Mechanical Division of the Association of American Railroads will hold its eighteenth annual meeting at Chicago on Thursday and Friday, June 27 and 28, in the south ballroom of the Stevens Hotel. On Thursday the meeting will convene at 9 a. m. and adjourn at 5 p. m. The Friday session will also convene at 9 a. m. and continue until the program is completed.

Reports of eleven standing committees will be presented and discussed. In the convention calendar it is

suggested that the committees limit themselves in the presentation of their reports to a brief summary of their principal features so that the maximum time possible may be available for discussion. Where reports have been distributed to the members in advance of the meeting such presentation is all that is necessary, as it may be assumed that those wishing to discuss a report will have studied it in advance of the meeting.

The details of the program follow.

## THURSDAY, JUNE 27

Address by C. H. Buford, vice-president, operations and maintenance department, Association of American Railroads.  
Address by Chairman F. W. Hankins, assistant vice-president and chief of motive power, Pennsylvania.  
Action on Minutes of annual meeting of 1939.  
Appointment of committees on subjects, resolutions, etc.  
Unfinished business.  
New business.  
Report of General Committee.

Report of Nominating Committee.  
Discussion of reports on:  
Lubrication of Cars and Locomotives.  
Wheels.  
Brakes and Brake Equipment.  
Couplers and Draft Gears.  
Tank Cars.  
Loading Rules.  
Car Construction.

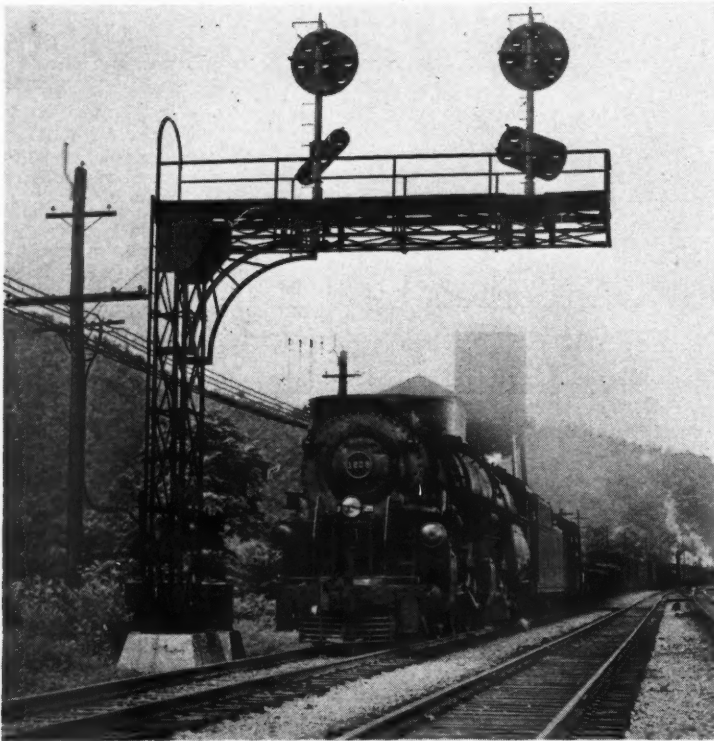
## FRIDAY, JUNE 28

Educational film—"Know Your Money"—United States Secret Service, Treasury department.  
Report on Inter-crystalline Cracks in Locomotive Boilers, by Dr. W. C. Schroeder, A. A. Berk, and R. A. O'Brien, presented by Dr. Schroeder, senior chemical engineer, Eastern Experiment Station, Bureau of Mines, College Park, Md.

Discussion of reports on:  
Arbitration.  
Prices for Labor and Materials.  
Specifications for Materials.  
Locomotive Construction.  
Closing exercises.



# Are the Railroads Prepared?



A survey of opinion among mechanical men concerning some of the important questions relating to motive power, freight-car equipment and repair shops

**W**HILE the United States is still in a state of non-belligerency, the urgency with which our national administration has taken up its extensive program of military preparations for the emergency of war clearly brings the problem of handling war traffic into the transportation picture. What effect will these preparedness measures have upon the transportation load? Are the railroads equipped with sufficient motive power and rolling stock? Will they have time to acquire the additional capacity needed in time to meet the demands likely to be placed upon them?

Regardless of the rapidly moving events in the international situation, which naturally occupy a prominent place in the minds of every one in business, the job for American industry is definitely established for many months to come. Likewise, the place of the rail transportation part of industry in the general scheme of things is rapidly crystallizing and the thinking of those in the industry has reached a stage where three vital questions of concern to mechanical department officers may be asked and the answers sought.

These three questions are: (1) What increases in the demand for motive power and rolling stock are likely to be experienced during the next 12 months? (2) How well equipped are the railroads, by virtue of equipment available and condition of equipment to meet demands for handling increased tonnage? (3) What should be the policy of those responsible for equipment with respect to the acquisition of equipment to supplement or replace that which is now available or can immediately be made available? These questions embrace locomotives, freight cars and shop facilities and the factors which are of importance in arriving at the answers are outlined and discussed under the related sections of this article which follow.

In any discussion of motive power it is well worth while to keep certain facts in mind. At the beginning of this year 68 per cent, or 28,700 of the 43,300 steam locomotives comprising the inventory of the Class I roads were more than 20 years old. In the past five years the proportion of steam locomotives in this age group has increased 10 per cent and the total number in the age group has increased by 900. This fact is of importance in that it throws considerable light on the character of a major tool with which the railroads produce transportation service.

## Are Locomotives Suited to Present Needs?

Then, too, there is the question of the condition of motive power. At the present writing 16.4 per cent of the steam locomotives of the country are in or awaiting shop as compared with 19.4 per cent a year ago. In order to maintain a satisfactory motive power condition repair shop operations must be stepped up to meet any demand anticipated as a result of increased traffic. A small part of any needed increase in repair work can be taken care of by a return to normal full-week operation but any further increase beyond that point immediately involves the problem of increases in force and efficiency of facilities.

When the ability to handle traffic is under consideration probably the foremost question is whether or not the supply of motive power is adequate for immediate needs. In seeking an answer inquiry was made of several ranking mechanical officers and the general opinion of those with whom contact was made was that the motive power supply is entirely sufficient for any volume of traffic that is anticipated for the remainder of this year.

Behind this affirmative opinion are several contributing factors of considerable interest. Specifically, the question of the suitability of 10- to 20-year-old locomotives for present-day service comes into the discussion and this, in turn, leads to mechanical and economic problems of the replacement or modernization of this older power. Probably the opinions can best be summed up by saying that if a locomotive has adequate boiler capacity; cast-steel beds instead of bolted frames and cross-ties; driving wheels of proper diameter for high-speed work; modern stokers; roller bearings; lightweight, well-balanced reciprocating parts and large tenders of sufficient capacity to eliminate intermediate water stops then it can be considered as suitable for today's service.

But this question of the 10- to 20-year-old locomotive should not be put aside without the qualifying opinions of those who point to the accomplishments of the less-than-10-year-old locomotives in showing the way to economies in operation and maintenance which have resulted in such performances as to invalidate many of the claims of the "modernization" adherents. Here, again, the discussion resolves itself into a conclusion typical to railroading: under a given set of conditions possibly only new power is worthy of a place in the picture and under another set of conditions properly modernized, older power may answer the purpose.

#### THE INFLUENCE OF DIESEL POWER

The introduction of Diesel power has turned the attention of mechanical men toward certain factors relating to locomotives that were not given the importance due them until the Diesel had demonstrated its major advantages. These advantages have enabled the Diesel to make such gains in the switching field as to place a definite limitation on the number of steam locomotives that may be built in the future for service in this specific field. In passenger service, opinions indicate that where

a Diesel locomotive can be utilized in such a manner as to average from 600 to 800 miles a day it must be considered a real competitor of the steam locomotive. Here, as in all motive power installations, economic factors are, in the final analysis, of greatest importance in reaching decisions as to the form of power to be used.

Not the least of the factors that the Diesel has forced into the limelight is that of availability. With the knowledge that this is one of the Diesel's major advantages inquiries have been made among mechanical men as to the possibilities of increasing the availability of steam power.

#### HOW CAN AVAILABILITY BE INCREASED?

There are many things that may have a decided influence on the availability of a steam locomotive, ranging from terminal movements through ash pit operations, inspection and repair work to lubrication and servicing. Mechanical men have some rather definite ideas concerning the manner in which the time a locomotive spends at a terminal can be reduced. Take the matter of coal, water and fire cleaning facilities, for instance. While those who mentioned the need for modernization in these facilities had in mind principally coal and water stations out on the line, which properly comes in the sphere of utilization of power, the comments reflected an appreciation of the fact that many of our engine terminals are sorely in need of new facilities that will get locomotives over the pits and into the house in much less time than it is now being done.

In the matter of maintenance any increase in the mileage made between the renewals of any given locomotive part or any decrease in the time required at shop or terminals to make such renewals will, of course, affect availability in a favorable manner. Coincidentally, many of the locomotive design features which serve as a measure of the adaptability of a locomotive to present-day service are those which automatically assure high



The West Shore (New York Central) Yards at Weehawken, N. J.





On the Norfolk & Western at Salem, Va.

availability. More than one mechanical officer mentioned the promising field for development in the use of better materials and better methods of application in order to provide increased firebox and flue life, which generally has not been satisfactory up to date.

The opinion of another officer concerning the life of running gear parts throws much light on the needs in this particular phase of maintenance. He pointed out that proper attention to the design and material used in crosshead shoes, hub liners and crown bearings is absolutely essential for high availability of power. Materials now available make it possible to increase the life of crosshead shoe linings to a point where their renewal can be made to coincide with monthly inspections. Crown bearing life appears to be adversely affected by the use of excessive pressures when applying the brasses and by limiting such pressures the life of the bearings, in many cases, has been increased so that no renewals need be made except at time when wheels need be dropped for other causes such as tire turning.

#### INSPECTION AND LUBRICATION

Inspection facilities and methods have an important bearing on availability. An adequate force of highly-trained inspectors and modern inspection facilities are essentials and when it is considered, as one officer pointed out, that a steam locomotive requires the equivalent of four days a month for inspection alone, there is a real opportunity to contribute to its useful time by shortening inspection time. If one is to form any conclusion it is to the effect that the periodic inspection is a vitally important matter and if this job is thoroughly done and the resultant required repair work carefully taken care of the time out of service for repair work in the intervening period will be at a minimum.

Another officer offers the suggestion that the way to get locomotives inspected quickly and maintained carefully is to put them into a tight pool schedule with the result that enginehouse forces will concentrate on getting

them out because they know they are in great demand.

Lubrication plays an important role in this matter of availability because it affects the time required to lubricate locomotive parts at the terminal as well as affecting the life of parts. Many men are strongly of the opinion that until such time as force-feed lubrication of all wearing parts is satisfactorily accomplished we are falling short of an adequate and effective locomotive lubrication system.

#### The War Load and Freight-Car Supply

Those who look back upon the effect of our entrance into the World War in 1917 on the movement of traffic on the railroad recall the congestions which at times effectively paralyzed the orderly movement of traffic, both commercial and military. These congestions, however, were primarily the result of hysteria which, in turn, was caused by the lack of understanding of the problem both by the railroads, the commercial shippers and the procurement agencies of our military establishments. Thus as much as 20 to 25 per cent of the freight transportation capacity of the railroads was tied up in cars immobilized in warehouse service.

Speaking of a study of the increase in traffic in 1918 when the United States was at war over that carried by the railroads in 1916 before it was at war, M. J. Gormley, executive assistant, Association of American Railroads, in an address before the Society of American Military Engineers, said: "We found this increase was only about 12 per cent of the total commercial load. This 12 per cent is not as much of an increase in traffic as the railroads experience from one season of the year to another, or from one year to another in the handling of ordinary commercial traffic, and it does not present a problem of any magnitude provided the movement of such traffic is under proper control to prevent the use of cars for storage purposes."

In interpreting this estimate of the war load in relation to the present situation it will be recalled that the



traffic situation in 1916 included a considerable volume of munitions export business to the allies. Comparing 1916 with 1913, the year before the depression which followed the outbreak of the European war, there was an increase in 1916 of 13 per cent over the earlier year. From the bottom of the depression in 1915 the increase in 1916 was about 24 per cent. This increase involved no serious difficulty, and the further increase after our entrance into the war would probably have been handled without notable incident had it been the result of an increase in commercial activity rather than the result of the war emergency and its accompanying general excitement and hysteria. Both the increase of 1916 over 1913 and the increase of 1918 over 1916 were of the order of increases from one year of peak traffic to the next with which the railroads had long been familiar.

In support of the validity of as low an estimate of the load superimposed by war emergency as 12 per cent of the normal commercial railway traffic of the United States, let it be remembered that a considerable proportion of the traffic in munitions which develops in a war emergency becomes a substitute for normal commercial traffic. It should, furthermore, be remembered that the war load, once established, becomes a steady load relatively free from sharp peaks and deep valleys, thus tending in some measure to fill up the valleys in the traffic curve without correspondingly exaggerating the peaks.

#### PRESENT SUPPLY APPEARS ADEQUATE

What, then, can be expected of the present freight-car supply? Last fall a peak of 861,000 cars were loaded during the third week in October. At the present time there are 1,620,000 cars on line, 9.9 per cent of which are awaiting or undergoing repairs. By reducing the bad order cars to 6 per cent and drawing surplus cars down to a minimum of 100,000, it should be possible to handle a fall peak up to about 900,000 cars, with no more intensive utilization of the active cars than obtained during the peak movement last fall. With surplus cars reduced to the same low point as last fall—that is 64,000—another 25,000 carloads could be added to

the peak figure. Such a peak would, no doubt, be accompanied by scattering shortages.

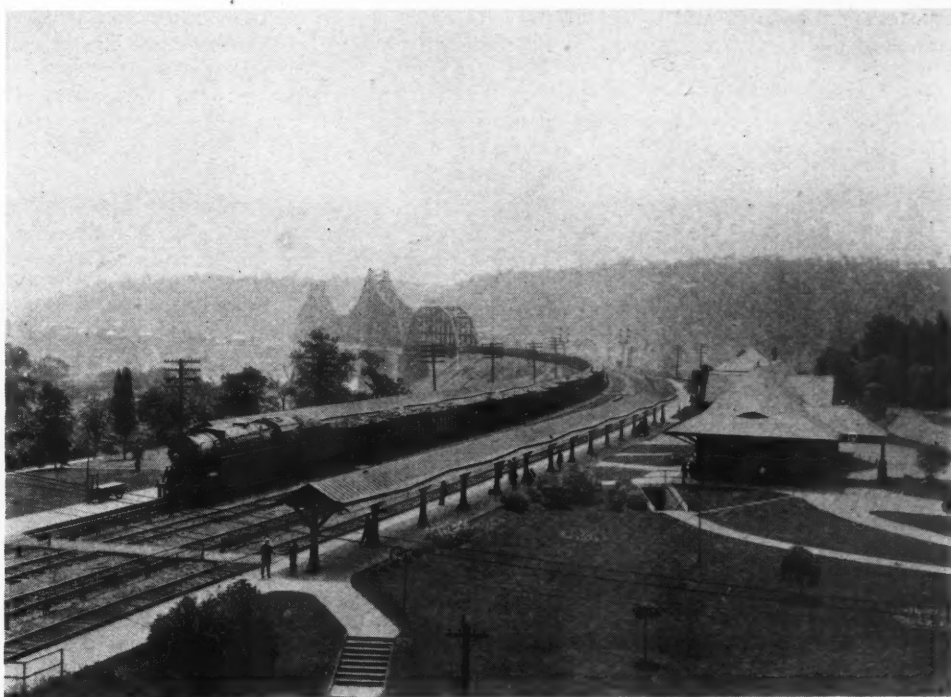
For the immediate future it would seem, therefore, that the need for freight cars in quantities larger than are being acquired is not apparent, judged solely on the basis of the probable demand for freight-car capacity. With the upward trend in freight-car loadings at the present level and appreciably higher than last year, however, tight spots for specific types of cars at specific locations will, no doubt, grow more numerous. Such cases have already begun to appear. It is these specific needs on particular railroads which cause the increase in demand for cars well in advance of any peak likely to tax the ultimate car capacity.

While the present car equipment may be adequate to meet the growing demands likely to be imposed during the present year, it is equally true that many of these cars are old and in such condition that they are bound to require frequent trips to the repair track. Such cars are inefficient and expensive to operate. With any increase in net railway operating income, the attraction of money at low interest rates and high prices for scrap will tend to increase the volume of freight-car orders beyond those which represent local needs for increasing capacity in specific types of cars.

The present upward trend in car loadings, therefore, may be expected to effect some increases in freight-car buying, partly to meet local pinches in car capacity and partly as the result of the more favorable revenue situation thereby effected.

The market for new cars will cover the entire range of types. Special consideration is being given in some cases to the possible need for additional 50-ft. automobile box cars for handling airplane parts. Another trend which is appearing as the result of the smaller inventories generally carried by commercial houses which have been made possible by fast and reliable deliveries is the growing need for cars of smaller capacities with low carload minimums. The absence of such cars threatens to continue the diversion of traffic from the rails. Coincident with the development of new types of cars there is the work that is now going on in connection with freight car trucks for high-speed operation. Several new

**A Train of Coal Moving North Over the Ohio River Bridge of the Pittsburgh & Lake Erie at Beaver, Pa.**



designs with greatly improved riding characteristics have been subjected to elaborate tests.

### Shop Equipment and Methods

The important consideration for mechanical departments to decide is whether there is sufficient work to keep new shop tools and facilities busy and a determination of how much it costs to keep expensive locomotive and car equipment out of service while repairs are being made. Although shops and enginehouses are equipped to do the work, there is a real need for new tools and facilities in order that the work may be done better and more efficiently. Machine tools become obsolete before they wear out. The lack of a stabilized work program has probably been the greatest deterrent to the acquisition of new equipment, as it is impossible to earn the return demanded of an investment in such equipment if the full productive capacity of machine tools can not be utilized.

In those shops operating on a normal basis, the decision to purchase equipment must be made as the result of accurate surveys. It is the absence of accurate data on the economies to be effected by the installation of new equipment that frequently results in a refusal to acquire equipment that might be justified if the facts were known. If shop superintendents and master mechanics are not prepared to present actual facts, they should not expect chief mechanical officers to become very enthusiastic about requests for equipment. As most railroads do not have an established policy with respect to the retirement of obsolete shop equipment, it is necessary that responsible shop officers be able to demonstrate the value of the retirement or replacement of any particular item of equipment.

While the roads could probably improve the efficiency of all shop departments by the introduction of new equipment, there is a great need, particularly, for modern welding machines. It is the opinion of some mechanical officers that welding equipment has produced a greater return on the investment than any other type of equipment installed in the last five years.

The wheel department apparently needs special attention because of the increased accuracy required and many shops are deficient in up-to-date boring mills, quartering machines and wheel lathes. There is an increase in the use of rolling equipment to finish not only

journals and crank pins but the crank-pin fits in wheel centers as well. The centralization of milling work, such as rod manufacturing, has decreased somewhat the demand for this type of machine. Portable electric and pneumatic tools are of the utmost importance in shops and enginehouses and it has been demonstrated that the increased cost over hand-operated tools is returned in short periods of time.

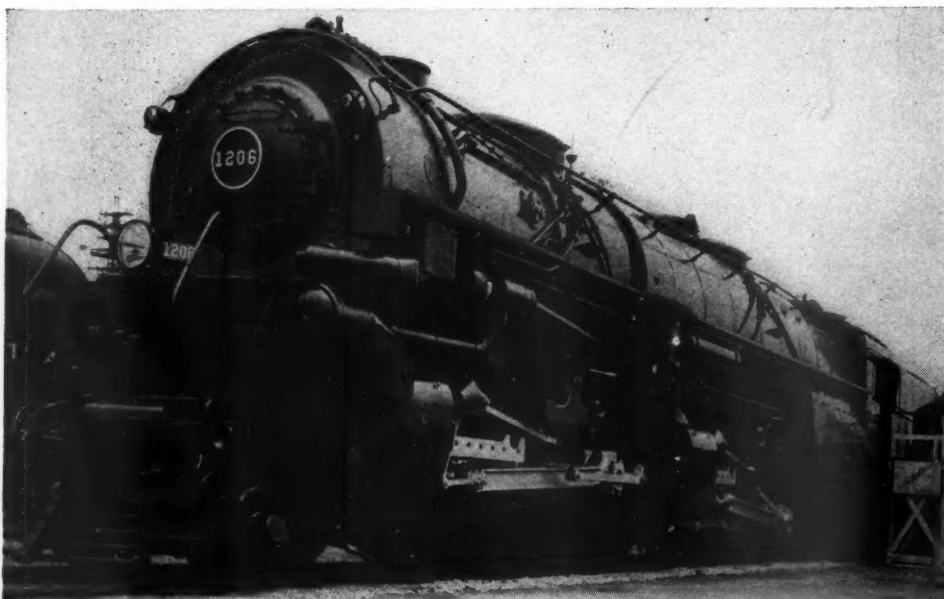
The trend in shop methods is towards those producing more accuracy. The tolerances to which many locomotive and car parts have been built in the past have been found to be unsuitable in equipment operating on present-day train schedules. A notable example is the accuracy to which some railroads are finishing and balancing car wheels by the use of better wheel lathes, wheel grinders and dynamic balancing machines. One railroad is experimenting with "Super-Finish" on valve bushings—a finishing process that has been used extensively in the automotive industry.

Even boilermakers are having to revise their concepts of what constitutes good boiler work. The initial stresses set up in boilers by cold working during their fabrication has been found to be one of the contributing factors causing intercrystalline cracking or embrittlement. For this reason boiler parts must be more accurately made and fitted to keep these stresses at a minimum.

It is generally true that the railroads have the skilled labor and equipment in their shops and enginehouses to meet any reasonable demand that may be required of them. It is not expected that the skilled labor now employed in railroad shops will be seriously affected by any possible national emergency because of the high average age of these employees. This situation exists particularly on those roads that have found it advantageous to close many of their shops and centralize the work at one or more points. The men transferred to these points have been those with the most seniority who, of course, are usually the older employees.

While the age of the shop employees may prove to be beneficial to the railroads in the immediate future, it is also creating a problem that will become more serious as time goes on. Because of the intermittent operation of many shops, it is difficult to attract young men for training as railroad mechanics. Those starting training courses are inclined to leave railroad work at the first opportunity for employment in industries where continuous employment can reasonably be expected.

\* \* \* \*



This Representative of Modern Freight Power Is Open to Visitors at the New York World's Fair



## Supply Forces Ready For Annual Meeting

**N**EXT week the Purchases and Stores Division—A. A. R., will hold a two-day meeting in New York to receive reports of committees which have been conferring on various aspects of railway supply work during the year and to consider other questions which will be brought to the convention. This meeting, which is to be held on Tuesday and Wednesday in the Pennsylvania Hotel, will mark the twentieth anniversary of the formation of the Association as a division of the A. R. A., predecessor of the A. A. R., and it will be the first annual meeting of the Division to be held in New York City, New York being selected in part to give members an opportunity to see the New York World's Fair and exhibits maintained there by the Eastern Railroads and by railway supply industries. Following is a special statement from the Chairman of the Division, A. C. Mann, vice-president, Illinois Central, about the coming meeting and work of the Division. A detailed report of the convention will be published in the *Railway Age* of June 29.

### The Purchases and Stores Division

By A. C. Mann\*

Chairman, Div. VI—A. A. R.

Intelligent and efficient handling of purchases and stores activities of the railroad industry, with greater efforts for economy and avoidance of waste, will be the theme of the meeting. This Division, organized in 1920 as a section of the American Railway Association, has been continuously active in pointing out to its membership improved methods for carrying on purchasing department and stores department functions. Many recommendations have been made and adopted as to standard practices.

Railroad management appreciates today more than ever before the importance of centralized control of purchasing and storekeeping. It is conscious of the direct benefit of knowing and controlling through one source the vast expenditures of cash for needed materials and supplies, and then knowing the cost of caring for and distributing these materials and supplies to the using departments. It also recognizes the need for expert guidance in this direction, just as it needs expert guidance of the engineering, mechanical, transportation and other departments of the railroad industry.

The *Railway Age* devotes considerable space each year to railroad purchases and their effect on the industrial welfare of the nation, and it is well that this be emphasized when we remember that the railroads purchase and use 20 per cent of the iron and steel, 25 per cent of the bituminous coal, 20 per cent of the forest products, and a very large percentage of the petroleum products of the United States. Railroad purchases are tremendously important to the commercial life of the nation, as they directly or indirectly touch every major industry.

Of vital interest to management is the investment in materials and supplies, which amounted to \$332,000,000 on Class I railroads on January 1, 1940. The proper care of the materials represented by this large investment requires specialized knowledge and ability. The real function of the storekeeping branch of the railroad industry is to requisition materials in such quantities as to avoid a surplus; to receive materials ordered in such manner as to insure that the railroad will get what it

#### Div. VI—A. A. R. Program

Tuesday, June 25

10:30 a. m. (Eastern Daylight Saving Time)

Meeting called to order by Chairman.

Address: A. N. Williams, president, Lehigh Valley Railroad Company.

Address: C. H. Buford, vice-president, Operations and Maintenance Department, Association of American Railroads. Report of General Committee.

Remarks by Chairman, A. C. Mann, vice-president, Illinois Central System.

#### Reports of Committees

Standard Material Classification (Committee 2).

Scrap, Handling and Preparation, Classification and Sale (Committee 3).

General Reclamation (Joint Committee 3A).

Material Stock Report—Pricing Methods and Practices—Inventory (Committee 4).

Fuel (Committee 9).

Purchasing Department Practices—Guarantees—Quantity Price Differentials (Committee 12).

Purchasing, Storage and Distribution of Equipment and Supplies Used in Dining Cars, Hotels and Commissaries (Committee 21).

Maintenance of Way and Construction Materials (Committee 34).

Stationery and Printing (Committee 13).

Storage and Material Handling Facilities (Committee 15).

Wednesday, June 26

9:30 a. m. (Eastern Daylight Saving Time)

Presentation of Winners of Annual Contest.

Report of Public Relations Committee.

Address by J. M. Fitzgerald, vice-chairman, Committee on Public Relations, Eastern Railroad Presidents' Conference.

#### Reports of Committees

Simplification and Standardization of Stores Stocks (Committee 16).

Extension of Purchasing in Standard Packages (Committee 35).

Identification Marks on Railway Tools, Materials, Etc. (Committee 39).

Loss and Damage Prevention—Purchasing and Stores Department (Committee 40).

Signal, Telephone and Telegraph Material—Purchasing, Storing and Distributing (Committee 41).

Report of Nominating Committee and Election of General Committee Members.

Adjournment.

pays for, both as to quantity and quality; to store materials received so as to provide proper protection from theft, fire and deterioration, and in such an orderly manner that frequent inventories may be made; to deliver materials to using departments in the quantities and at the time and place required; and to account for all materials handled in a manner prescribed by the accounting department. An added function is the economical handling of scrap materials, first with a view to their possible reclamation for reuse, then the proper sorting of all scrap for sale. The records of the Purchases and Stores division show continued progress in this branch of railroad service as a result of the study and application of its recommended practices.

The purchasing and stores officers and employees are also in a position to perform a real service in public relations. The nature of their work and their familiarity with materials give them an active contact with the industrial world, and in this contact they have ample opportunity to acquaint the traveling and shipping public with the advantages of railroad transportation. They are in position to know and to tell just what their own railroad is doing in and for each community it serves. Our purchasing and stores officers are conscious of the fact that building up good will for their company is just as important as good purchasing and good storekeeping.

\* Vice-president, Purchases & Stores, Illinois Central.



# Almost \$400,000,000 of Railway Buying in Five Months

Total \$57,000,000 larger than last year—More material on hand but consumption again rising

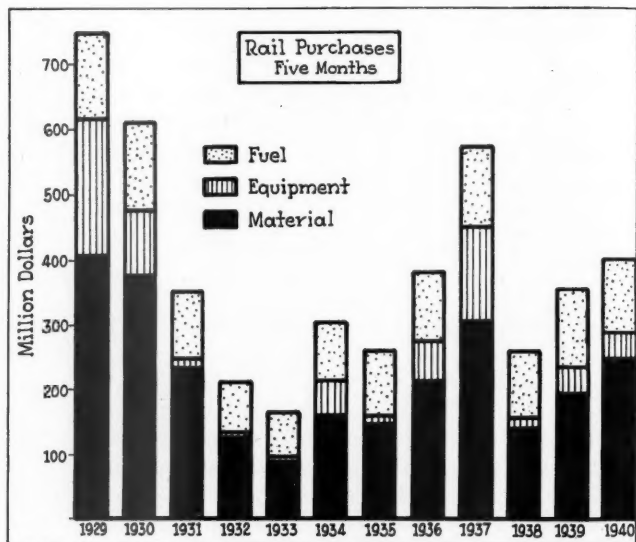
**S**UBSTANTIALLY complete records of purchases for the first four months of 1940 and partial information for May, indicate that the Class I railroads received approximately \$361,207,000 of materials, supplies and fuel during the first five months of this year and, in addition, ordered approximately \$35,096,000 of new locomotives and cars from equipment builders,—a total for the first five months of approximately \$396,303,000. About \$284,160,000 of this was materials and

Railway Purchases—Materials and Equipment—Five Months

	Materials received from mfrs. (000)	Equipment ordered from mfrs. (000)	Total from mfrs. (000)	Fuel (000)	Total including fuel (000)
1929 .....	\$406,309	\$207,474	\$613,783	\$146,791	\$760,574
1930 .....	375,089	99,287	474,376	138,511	612,887
1931 .....	231,778	11,136	242,914	107,222	350,136
1932 .....	127,000	1,910	128,910	82,700	211,610
1933 .....	92,132	2,119	94,251	71,425	165,676
1934 .....	167,535	48,616	216,151	88,461	304,612
1935 .....	149,050	7,596	156,646	103,750	260,396
1936 .....	212,460	62,301	274,761	108,592	383,353
1937 .....	304,811	147,024	451,835	123,125	574,960
1938 .....	143,473	12,780	156,253	99,052	255,305
1939 .....	192,772	41,394	234,166	105,559	339,725
1940* .....	249,064	35,096	284,160	112,143	396,303

\* Subject to revision.

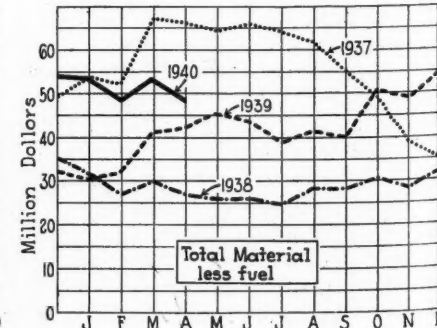
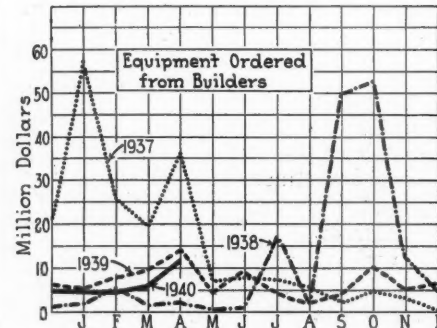
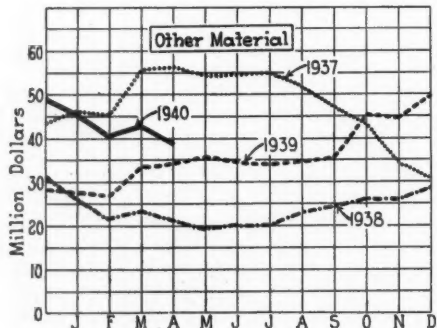
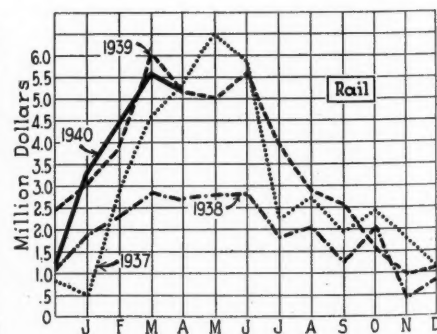
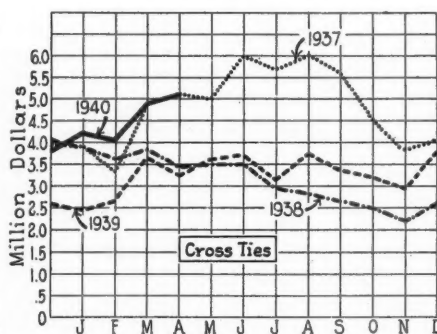
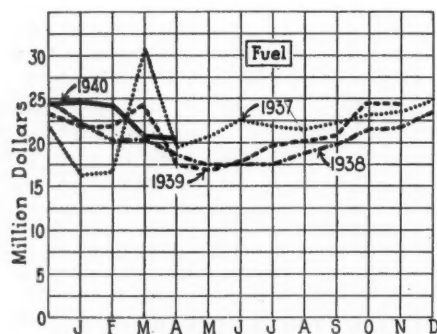
equipment from manufacturers, while \$112,143,000 went for coal and fuel oil. The figures include freight charges but are exclusive of payments made by the railroads for



Five Months Purchases of Materials and Equipment—1929 to 1940

miscellaneous services, for materials and equipment acquired under leasing arrangements, for materials purchased by private car companies and purchases made by railway building contractors.

The purchases of materials (value of materials received by railroads) necessarily include some carry over



Month to Month Trends of Materials Received and Equipment Ordered

from orders placed by the railroads with supply companies during the war scare last year, particularly rail and car and locomotive materials. However, the materials and supplies indicated to have been received from manufacturers during the first five months were greater by approximately \$56,292,000 or 29 per cent than in the first five months of 1939 while the orders (not installations) placed with equipment builders for locomotives and cars during the period declined \$6,298,000.

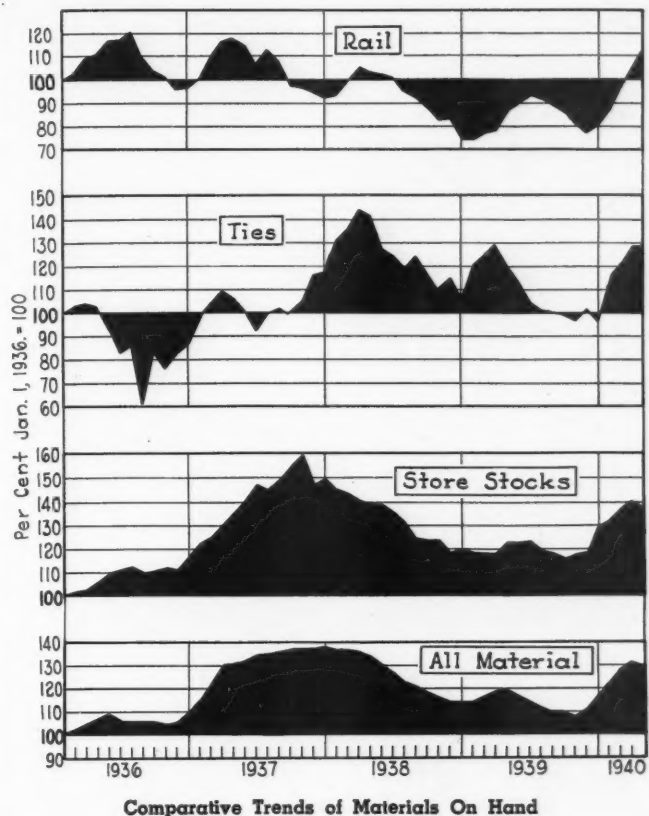
### More Ties and Rail

Material received during the first five months included approximately \$23,761,000 of rail as compared with

#### 4 Months' Purchases—Material and Fuel

(Exclusive of New Equipment)

Road	1939 4 Mos.	1940 4 Mos.	Increase	Per Cent of Op. Increase	Per Cent Rev.
A. C. & Y. ....	\$118,508	\$160,210	\$41,702	26	21.5
Alton .....	1,010,691	1,446,692	436,001	30	28.6
Alton & Sou. ....	97,505	134,093	36,588	27	...
Ann Arbor .....	345,675	396,547	50,872	13	29.8
A. T. & S. F. ....	8,348,508	14,989,768	6,641,260	44	31.1
A. B. & C. ....	279,330	279,252	-78	0	23.4
Bang. & Aroo. ....	375,083	397,178	22,095	6	17.0
B. & Me. ....	2,247,042	2,832,840	585,798	26	18.5
B. & O. ....	7,838,600	12,413,288	4,574,688	58	23.2
Cam. & Ind. ....	52,181	42,272	-9,909	-23	8.1
Cent. of Ga. ....	1,133,827	1,252,618	118,791	9	23.2
Cent. Vt. ....	394,317	512,439	118,122	23	23.4
C. of N. J. ....	2,028,672	2,946,501	917,829	45	25.6
C. of N. W. ....	5,396,644	5,950,902	554,258	10	22.6
C. St. P. M. & O. ....	1,267,320	1,460,238	192,918	15	27.6
C. & O. ....	6,449,120	7,871,312	1,422,192	18	18.9
C. & E. I. ....	1,203,191	1,313,922	110,731	8	25.8
C. & I. M. ....	171,810	429,019	257,209	60	29.8
C. B. & Q. ....	6,370,016	6,380,680	10,664	2	21.4
C. R. I. & P. ....	6,341,603	6,294,926	-46,677	-1	25.6
Colo. & Sou. ....	473,168	556,981	83,813	15	27.4
C. & G. ....	84,538	75,530	-9,008	-12	18.5
D. & H. ....	1,438,463	2,375,998	937,535	39	28.2
D. & L. W. ....	3,028,161	3,403,771	375,610	12	19.8
Det. & Mack. ....	56,293	47,839	-8,454	-18	23.1
D. & T. S. L. ....	147,154	122,096	-25,058	-21	8.6
D. T. & I. ....	240,806	457,320	216,514	47	15.4
D. M. & I. R. ....	678,956	711,111	32,155	5	9.0
D. S. S. & A. ....	142,684	140,869	-1,815	-1	22.5
E. J. & E. ....	766,170	822,432	56,262	7	12.8
Erie .....	4,311,968	5,183,077	871,109	17	19.7
F. E. C. ....	608,017	883,025	275,008	31	18.0
Ft. W. & D. C. ....	468,143	513,666	45,523	9	28.2
Gr. Nor. ....	5,224,119	5,906,788	682,669	12	25.4
I. C. ....	8,130,100	9,695,415	1,565,315	19	25.6
Kansas City Terminal	253,148	339,234	86,086	25	...
L. S. & Ishpeming..	20,805	79,144	58,339	74	41.6
L. & N. ....	5,508,559	8,248,475	2,739,916	50	26.2
L. & N. E. ....	135,670	181,577	45,907	25	13.5
Lehigh Valley ....	2,789,849	3,052,827	262,978	9	20.0
La. & Ark. ....	514,610	342,924	-171,676	-50	13.0
M-K-T .....	1,257,063	1,166,541	-90,522	-8	13.6
Me. C. ....	757,029	1,004,563	247,534	33	23.5
Miss. C. ....	74,212	41,440	-32,772	-44	15.4
Mo. & Ark. ....	76,099	85,481	9,382	12	22.4
Mobile & Ohio ....	788,484	926,155	157,671	17	24.8
Montour .....	94,016	98,355	4,339	4	16.0
N. C. & St. L. ....	1,115,903	1,288,147	172,244	13	24.8
N. Y. C. ....	21,552,823	27,738,031	6,185,208	22	23.9
N. Y. C. & St. L. ....	2,273,256	3,289,077	1,015,821	31	22.0
N. Y. O. & W. ....	476,495	330,084	-146,411	-44	20.0
Northern Pacific ..	5,060,543	4,641,691	-418,852	-9	23.8
N. W. Pac. ....	133,214	125,472	-7,742	-6	13.6
Penna. and L. I. ....	17,394,423	26,123,992	8,729,569	33	17.3
Pa.-Reading Seashore	254,279	287,604	33,325	11	18.6
P. & Shaw. ....	60,032	71,483	11,451	19	21.7
P. & P. U. ....	113,627	140,922	27,295	19	...
Pere Marquette ....	1,979,990	2,690,401	710,411	26	24.6
Pitts. & W. Va. ....	108,849	307,223	198,374	65	22.4
Pitts. Shaw. & Nor.	38,858	49,239	10,381	21	11.6
R. F. & P. ....	731,741	870,578	138,837	16	25.0
Read. ....	2,873,551	3,827,408	953,857	33	19.2
S. A. L. ....	4,098,362	3,980,280	-118,082	-29	22.5
St. L.-S. F. ....	3,626,459	3,448,955	-177,504	-5	24.2
St. L. S. W. ....	1,322,493	1,607,671	285,178	18	24.5
Sou. Pac. ....	9,576,636	12,038,241	2,461,605	21	23.6
Tenn. C. ....	181,830	190,971	9,141	5	21.4
Terminal of St. Louis	494,296	657,604	163,308	25	...
T. & N. O. ....	1,954,789	3,050,729	1,095,940	36	20.4
T. & P. ....	1,569,741	2,415,108	845,367	55	27.8
U. P. ....	11,120,304	13,168,895	2,048,591	19	27.2
Utah .....	31,332	52,214	20,882	40	17.8
Va. ....	884,155	2,040,740	1,156,585	57	24.3
Wabash .....	2,769,037	3,920,705	1,151,668	29	26.4
West. Md. ....	1,087,089	1,283,337	196,248	15	20.4
W. & L. E. ....	624,590	984,074	359,484	37	20.0



Comparative Trends of Materials On Hand

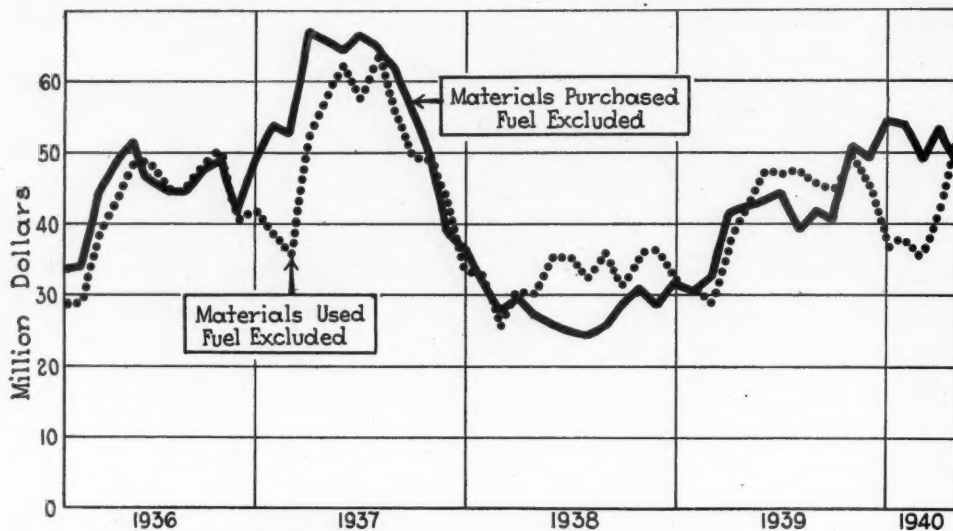
\$19,987,000 in the first five months of 1939, and approximately \$22,866,000 of cross ties as compared with \$15,730,000 in the same period in 1939, while approximately \$202,436,000 of car and locomotive and other materials were received as compared with approximately \$157,055,000 in the corresponding period of 1939. The five months' totals show a \$4,411,000 increase in tie buying over the first five months of 1938, a \$11,133,000 increase in rail deliveries a \$90,036,000 increase in receipts of other materials and a \$140,998,000 increase in aggregate purchases of materials, fuel and equipment.

The railroads took more rail each month this year than in the same months of last year with the possible exception of May and they took more ties and other material than in each of the first five months of 1939. Rail receipts amounted to \$5,382,000 in April, as compared with \$3,282,000 in January and \$5,370,000 in April 1939. Ties totalled \$5,150,000 in April, as compared with \$4,299,000 in January and \$3,297,000 in April, 1939. Other materials totalled \$38,445,000 in April, as compared with \$33,842,000 in April, 1939.

#### Railway Purchases—Materials and Supplies

	Fuel (000)	Rail (000)	Cross ties (000)	Other Material (000)	Total (000)	Total less fuel (000)
1939						
January .....	\$23,377	\$483	\$2,445	\$27,374	\$53,679	\$30,302
February .....	23,063	2,934	2,632	26,721	55,350	32,287
March .....	24,361	4,631	3,659	33,467	66,118	41,757
April .....	17,833	5,370	3,297	33,842	60,342	42,509
May .....	16,925	6,569	3,697	35,651	62,842	45,917
5 Mos. ....	105,559	19,987	15,730	157,055	298,331	192,772
1940						
January .....	24,628	3,282	4,299	45,879	78,088	53,460
February .....	23,879	4,478	4,091	40,189	72,637	48,758
March .....	21,574	5,619	4,826	42,923	74,942	53,368
April .....	21,062	5,382	5,150	38,445	70,039	48,977
May* .....	21,000	5,000	4,500	35,000	65,500	44,500
5 Mos.* .....	112,143	23,761	22,866	202,436	361,206	249,063

\* Subject to revision.



Comparative Month to Month Trends of Purchases and Consumption

The storehouse total, however, was not as large in April of this year as in either of the three preceding months.

#### More Material On Hand

Fuel stocks on May 1 are relatively unchanged from a year ago, but stocks of new and relay rail totalled \$38,545,000 on May 1, as compared with \$26,491,000 on January 1, 1940, and \$28,459,000 on May 1, 1939. Cross ties in stock totalled \$64,055,000 on May 1, as compared with \$47,795,000 on January 1, and \$60,749,000 on May 1, 1939. Store house materials on hand totalled \$232,198,000 on May 1, as compared with \$218,829,000 on January 1, and \$205,169,000 on May 1, 1939. The gross material balance of the Class I railroads on May 1, inclusive of scrap, was \$367,359,000, as com-

tinued to decline through March of this year when the consumption was \$15,000,000 less than during last October. However, a reversal of this trend is indicated by the March and April figures, and the consumption for April and May again appears to have exceeded purchases. Stock balances, while larger than a year ago, include much less rail, ties and storehouse materials than in 1937.

Up to the present, the removal of barriers to the manufacturers of war materials for belligerents and this country's preparations for national defense have had no perceptible effect upon aggregate railway buying. However, steel mill operations are again mounting to capacity proportions and other railway supply industries are tooling their plants to produce war materials. These conditions are combining with the priorities already being given by steel mills to war business to stimulate the consumption of railway materials.

#### Materials in Stock—Class I Railroads

	Fuel (000)	Rail New and S. H. (000)	Cross ties (000)	Stores stock (000)	Scrap (000)	Total (000)
1939						
Jan. 1	\$22,660	\$24,733	\$59,491	\$199,477	\$11,200	\$317,561
Feb. 1	25,594	24,691	61,796	196,330	10,393	318,804
Mar. 1	27,100	26,229	63,346	196,669	10,239	323,583
Apr. 1	29,445	27,695	65,246	197,383	10,686	330,455
May 1	24,101	28,459	60,749	203,806	11,217	328,332
June 1	21,048	29,345	57,067	205,169	11,548	324,177
July 1	18,732	30,520	52,809	205,027	11,761	318,849
Aug. 1	20,175	30,026	52,158	197,960	12,023	312,342
Sept. 1	21,165	29,137	51,375	194,802	12,384	308,863
Oct. 1	21,512	28,274	49,592	193,025	12,235	304,638
Nov. 1	20,800	26,642	47,330	197,378	11,722	303,872
Dec. 1	23,866	25,972	51,309	198,564	11,021	310,732
1940						
Jan. 1	23,113	26,491	47,795	218,829	10,962	327,190
Feb. 1	22,454	28,213	58,187	222,127	11,862	342,843
Mar. 1	23,190	31,546	60,615	230,045	11,576	356,972
Apr. 1*	21,081	34,386	64,363	235,366	11,429	366,625
May 1*	19,997	38,545	64,055	232,198	12,565	367,360

\* Subject to revision.

pared with \$327,190,000 on January 1, 1940, and \$328,332,000 on May 1, 1939.

#### Consumption Up

Since material prices have been relatively unchanged, the higher material balances reflect a lower rate of material consumption than purchases. As compared with the period from March, 1939, to September, 1939, when the railroads used more material every month than they received, aggregate consumption of materials from manufacturers started to decline last November and con-



Photo by George Dorrill

The Pennsylvania's "Spirit of St. Louis," First Passenger Train to Cross the St. Louis Municipal Bridge. Tears Through the Paper Barrier During Ceremonies Marking Opening of Full Railroad Service Over the Bridge



C. & E. I. Storehouse  
at Danville



## Stock Cards Are Requisitions on C. & E. I.

Book records replaced and paper work reduced in stores revamping—  
Tabulating machines for material accounting

**I**N recent years the Chicago & Eastern Illinois has made changes in connection with its supply work which have attracted the attention of other railroads. In 1937 one of the first acts of the new purchasing agent was to tear down the walls between the purchasing office and the reception room, an alteration which relieved the cramped aspect of the purchasing office and created hospitable accommodations for the public by removing obstructions to light or view.

More recently the supply department has chosen cards for stock records in place of stock books and has discontinued writing requisitions on the purchasing department for storehouse material. Storehouses have been consolidated and all material accounting has been transferred from the stores to a centralized accounting department. Shop requisitions, inventories and employees' time are prepared on tabulating machine cards. Store forces have been reduced in number and are almost all

employed at one point. Stores expense, as computed by the railroad, has been reduced to 3.5 per cent or less of the cost of materials charged to expenses. These changes are said to have been accomplished without impairing the required supply service or relieving the department of responsibility for neatness and cleanliness in maintaining storerooms and grounds.

### Fewer Stores

Prior to 1923 and 1924 the railroad maintained district stores at Yard Center, in the outskirts of Chicago, at Terra Haute and Evansville, Ind., and also at Villa Grove, Salem, and Danville, Ill. At present the store department maintains a \$12,000 to \$15,000 stock at Yard Center in charge of a store department clerk and two laborers, and it maintains a \$10,000 stock at Villa Grove in charge of a store department clerk who has the part

CLASS 25		Form 2385-B											
UNIT Each		#950 - One-Cell Eveready Flashlight batteries, or equivalent - U. S. Simplified Practice R-104-30.											
YEAR 1940		(432 to case)											
DATA		1 ON HAND			2 DUE		3 HOLD ORDERS			4 USED 90 DAYS			
JAN - - 1940					MAR - - 1940						MAY - - 1940		
1	532	1728	117-8	1	1252	864	314-7	1	1184	864	513-37		
2	0			2	0			2	0				
3	0			3	0			3	0				
4	1039			4	1108			4	932				

Section of a Single Item Stock Card now used in place of Stock Books and Requisitions—The Center Column Tells the Purchasing Department What is Needed and the Number of the Purchasing Agents Order on the Dealer is Marked in the Third Column

time assistance of one laborer. All other store forces are now at Danville, Ill., and all other mechanical department material is kept at Danville with the exception of a \$5,000 stock in charge of shop forces at Terra Haute, a \$6,000 stock in charge of shop forces at Evansville and small working stocks at other small points. This means that the number of stores on the C. & E. I. has virtually been reduced to one. The Danville store carries a stock balance of approximately \$478,000, consisting of all unapplied materials with the exception of fuel, rail and ties and this store is maintained with a force of only 38 employees, consisting of 3 clerks, 6 stockmen, 4 stockmen helpers, 2 material clerks, 2 chauffeurs, 1 supply car man, 1 night clerk, 2 truckers, and 17 laborers. These forces perform all the clerical work of the stores, handle all incoming and outgoing material and perform delivery service maintained between the shop and the stores. This force is exclusive of 20 men employed at the scrap dock and reclamation plant.

The store facilities at Danville consist of a two-story building of brick, 50 ft. wide and 300 ft. long, with concrete floors and platforms. The material handling equipment includes 6 hand-jack lift trucks, 4 gasoline tractors, 82 containers for lift-truck operation and 46 wagons and trailers for tractor operation. Skids are used for journal brass, brake beams and miscellaneous car and locomotive materials and as containers to ship these materials to outside points. In recent years bins and shelves have been extensively rearranged in the storehouse to make room for materials which were previously stored outside or in other cities and also to permit the freer operation of material handling equipment as well as to take care of unclaimed and undamaged freight.

The outside material has also been extensively rearranged and most of the material is now stored on sections of rail supported on concrete pedestals. The new rack for bar iron departs from the conventional practice. Instead of setting sections of rail in concrete foundations to form vertical posts between different sizes of iron, rail is laid horizontally on concrete footings and the posts are made of two pieces of bar iron which are bent at one

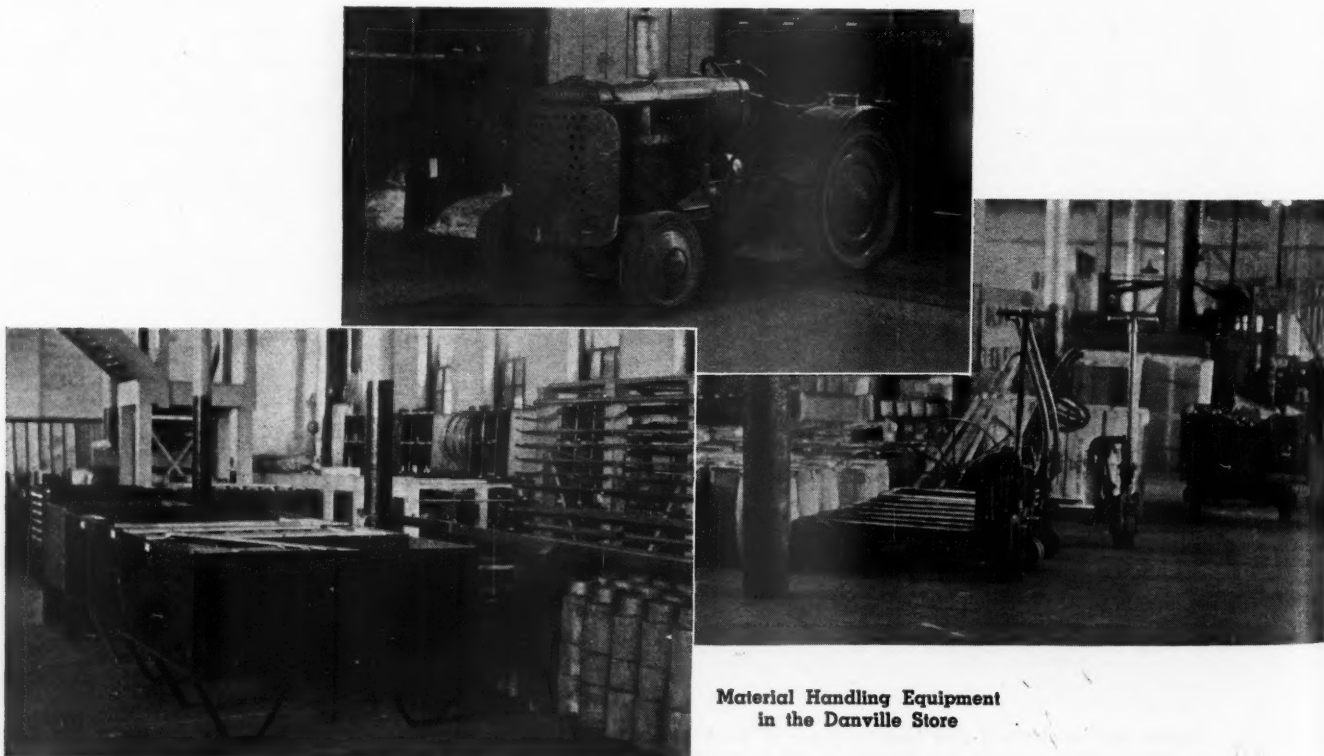
end and bolted to form an adjustable clamp which can be shifted along the rail section to form wider or narrower pockets for the stored material.

### A. A. R. Stock Book Out

Until this year, when a card record was installed for stock keeping purposes at Danville, the store used the A. A. R. standard type of stock book, consisting of loose-leaf binders containing pages designed to keep the record of a dozen or more items of stock per page and with other pages printed with the descriptions of these items. This was the type of stock book before the consolidation of stores and at one time these books also carried stock record pages in duplicate so that a copy of the stock record could be made in the form of a coupon and sent to the general store to be posted in a master stock book. Transfers of material from one store to another were accounted for. Each store made requisitions on Danville and Danville made requisitions on the purchasing department for new material.

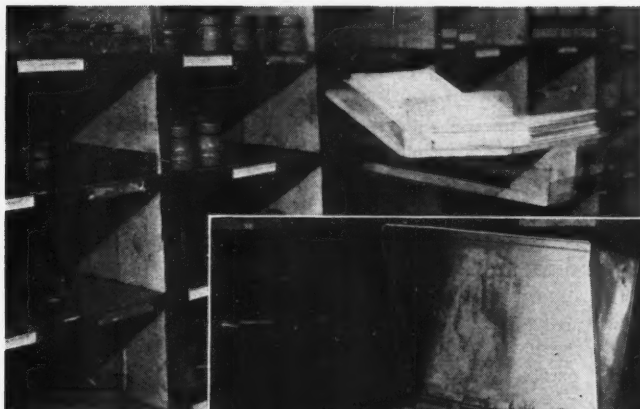
Later, the Danville store also began writing the purchasing department's orders on dealers as well as the store department's requisitions on the purchasing agent in those cases where contracts had previously been arranged by the purchasing department for the material. This practice was discontinued in 1937 and the plan adopted of sending the stock books from Danville to the purchasing office in Chicago, 125 miles distant, where the purchase orders were prepared from the stock book records without further action by the store department except when emergency shipments were required. Finally, experiments were made with stock cards with the result that, at the beginning of this year, stock cards were substituted for stock books as a record of stock and also as a basis for all orders for stock replenishment.

These cards, one for each item of stock, are made of stiff cardboard 7½ in. wide and 9½ in. long and are ruled on both sides to give a four-year stock record. The cards are not fastened together as in card index systems and the spaces for identifying the month and year



Material Handling Equipment  
in the Danville Store





Card Holder  
for  
Counting Stock

Tin Boxes for Keeping  
Stock Cards



Inside the Danville Store

were left blank when printing the cards so that each card can be used independently of other cards. Each item of material has a catalogue number, consisting of the material classification number and the serial number; this number is used on all requisitions, orders and accounting records and the cards are filed in material classification order in metal cases for ready use.

Since the first of the year stock is taken every 60 days for replenishment purposes instead of 30 days and at the proper time the cards for the stock to be inventoried are removed from the cases and placed on a rack which can be attached to any bin while the stock is being counted. The stock on hand must be shown on the card and also the number of items received since the last count, the amount of material still due on orders, and the

consumption during the last 60 days. The receipts are posted on the cards when material is received.

With this information, the number of items to be ordered is computed and entered on the card, whereupon the cards so marked are placed in a special mail pouch and forwarded to the purchasing department for the preparation of purchasing orders without any further action by the stores either by applying signatures or furnishing supporting documents. If the material can be ordered at once, the purchasing department immediately prepares a purchase order and copies of the purchase order are sent to the store department to serve as a material receiving record and also as the store department's office copy of the purchase. If bids must be obtained before material is purchased, the purchasing department prepares an inquiry form but in each case a purchase order number is assigned immediately and marked on the card and the cards are returned to the store in the next mail.

These stock cards are preferred to the stock books because they permit revisions in descriptions to be made simply by removing or rearranging cards and by permitting a more compact record of each item of material. In addition, these cards are better adapted to this road's plan for ordering material since only cards for material to be ordered need be sent to the purchasing department and each card can be returned as often as necessary without disturbing other cards or requiring the store to make intermediate requisitions on the purchasing department for additional supplies that may be required for the next regular ordering period.

#### Punch Cards for Shop Requisitions

Withdrawals for local use are almost all chargeable to operating expenses when issued and since 1932 this material is obtained on requisitions written on tabulating machine cards. The correct class and item number of the material is obtained from the bin label and is marked on the card as the material is issued. The cards are mailed to the accounting department daily where the information on the face of the card is key punched into the card and the cards run through accounting machines

which list the entries and complete the distribution of the charges automatically. A red card is used for material returned to the store for credit.

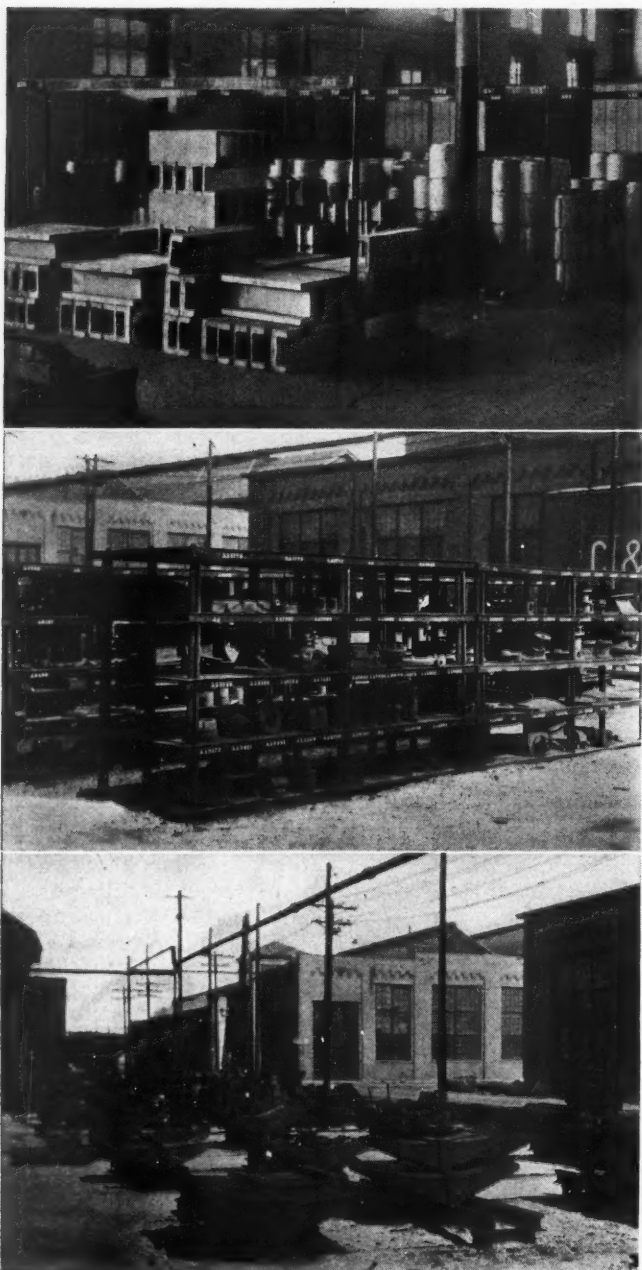
For all other material, standard or non-standard, all departments, including the stockmen in charge of stores at outside points, also division engineers, division superintendents, etc., use a requisition form 5 in. wide and 7 in. long, one copy of which can be returned to the maker as a shipping order while the original, when marked with the material reference number, is sent to the accounting department for machine accounting. If the requisition calls for material which is not carried at the store, this requisition is forwarded to the purchasing department and the same form is used by the store when it originates requisitions for non-standard material. The use of one form for this purpose has greatly reduced the clerical work in furnishing material to outside points.

Tabulating machine methods for taking annual inventory is another practice of several years standing on the C. & E. I. In this case the quantity of each item on hand is marked on a tabulating card, one card for

each item of material, whereupon the cards are returned to the accounting department for machine accounting. It takes less than a day to take inventory at Danville.

#### Low Stores Expense

At the present time approximately \$180,000 of material is withdrawn from stock at the Danville store per month for local use. With a stock balance of \$478,000 this represents a turn over of 37.6 per cent per month and operations on the basis of a 79 day's supply which include a large inventory of lumber and other materials which are being held for programmed car work. As computed by the C. & E. I., the cost of handling this material and maintaining the stores has been reduced to \$3.50 per \$100 of the material charged to operating expenses. This cost excludes about \$450 per month for store delivery service and excludes scrap handling expenses. At the same time it includes that portion of the purchasing department's cost of operating expenses not chargeable to fuel and ties and also the expenses charged to stores expense by the accounting department for material accounting, according to L. J. Ahlering, purchasing agent, and W. M. Robertson, district storekeeper, who directed the work.



Material Storage Racks at Danville

## Speed Found Cause of Derailment at Little Falls

**T**HE combination of excessive speed on a sharp curve and quick run-in of slack resulting from the sudden closing of the throttle was found to be the cause of the derailment of the New York Central's "Lake Shore Limited" at Little Falls, N. Y., on April 19, by the I. C. C.'s Bureau of Safety in its report issued last week by S. N. Mills, director. The Public Service Commission of the state of New York, which carried through a separate investigation of the derailment, concurred in placing blame on excessive speed in a report made public on June 14, but, in addition, placed emphasis on the idea that the engineman suffered from mental confusion at the time of the accident, due possibly to his advanced age.

The reports cover the derailment of New York Central train No. 19 westbound from New York to Chicago on a 7-degree, 24-min. curve on the Mohawk division known as Gulf curve, causing the death of 26 passengers, 3 porters and the fireman and engineman; and the injury of 47 passengers and 4 employees; which was reported in an illustrated article appearing in the *Railway Age* of April 27, page 741. The state Commission estimates the damage to equipment at \$208,595.

The I. C. C. report finds no evidence of defective or dragging equipment or of any obstruction on the track which might have figured in the derailment and points out that the track structure was in excellent shape, with gage and superelevation properly maintained. It also finds no indication of any defect in equipment and air brakes existing prior to the accident.

Dismissing these factors as possibilities, the report attributes the cause of the accident to failure of the engineman to reduce speed sufficiently and the run-in of slack due to sudden closure of the throttle. It points out that the maximum authorized speed on Gulf curve was 45 m.p.h. and that two signals located about 9,000 and 3,000 ft. east of the point, respectively, display restrictive indications requiring forestalling of the train

(Continued on page 1113)





## Timely Topics for Freight Men

Freight station supervisors discuss problems of war, traffic and service to meet competition

**"ALTHOUGH** Italy's entrance into the war will affect export shipping generally, steps have been taken to prevent any congestion at Atlantic and Gulf ports."

This statement made by G. C. Randall, chairman, general committee, Operating-Transportation division, A. A. R., is typical of the timeliness of the subjects considered at the annual session of the Freight Station section of the Association of American Railroads. This meeting, which was attended by more than 500 members, was held at the Hotel Pennsylvania in New York on June 11, 12 and 13, under the leadership of Chairman J. T. Gallagher, manager station service, Erie, Cleveland, Ohio; Vice-Chairman O. Maxey, superintendent of stations and freight claim prevention, C. R. I. & P., Chicago, and Secretary L. R. Knott, of Chicago.

C. H. Buford, vice-president, Operations & Maintenance department, A. A. R., delivered the opening address and stressed the necessity and value of discussions. "Agents being on the front line," Mr. Buford said, "are therefore an important part of the railroad industry. The present period of upheaval brings forth the need for a strong position in national defense. This will call for large movements of men and materials and the railroads must prepare for this." Mr. Buford told the agents in closing that it was up to them to police car handling and to see that cars are used for transportation not warehousing purposes.

P. W. Johnston, general manager, Erie, told the agents that it was essential that they get ideas from

the meeting, but even more important that they pass such ideas along and put them into effect. "Agents," Mr. Johnston said, "should not be insulated against ideas. **The proper retirement age of an agent, or any other railway officer, is when he knows all the reasons why his operations cannot be improved.** The agent must have the respect of his men and this cannot be bought or demanded—it must be earned. Discipline is not synonymous with punishment—rather it is to make subordinates willing followers of their leader. Supervisors must be able to listen as well as talk, and should be salesmen not only of traffic but of themselves to their employees and the public." Mr. Johnston closed by urging the agents to familiarize themselves with the present complicated rules of labor and told them that, if their relations with individual employees are proper, they have nothing to fear from labor organizations.

### New York Port Problems

The facility with which railroad freight reaches all sections of New York harbor in effecting deliveries to steamship piers was described by Walter P. Hedden, chief of the Bureau of Commerce of the Port of New York Authority. "There are about 500 steamship berths in various sections of the port, some of which are served directly by rail connections and some of which are not," he said. "All of them are directly served, however, by every railroad entering the port. The harbor waters touch each one of them, and years ago the rail-

roads developed a system whereby harbor piers were connected with every railroad through extending the rails to shipside by means of carfloats and lighters.

"In addition to this system of lighterage delivery, there are many steamship terminals in the port that are equipped for the handling of cars directly from rail to keel. These are particularly valuable for loading and unloading of bulk freight, scrap iron, lumber and even such unit commodities as unboxed automobiles. And many of these piers are equipped with the most modern devices for economic handling, such as huge gantries, magnetic cranes, shipside automobile elevators and Ross lumber carriers. We even have one terminal where freight cars themselves are elevated and taken right into a ship for dispatch to Havana or the Gulf."

Mr. Hedden emphasized the importance of a co-ordinated port information service, which has been established by the port trade advisory board. "Through this medium," he explained, "we are trying to get before transportation men and shippers the answers to questions which they naturally raise about the new services and facilities that are constantly being furnished at the port, the changes in steamship service occasioned by the war, the condition of terminal and warehouse facilities with respect to how far they are filled or how much space is still available, and make investigation and prompt rectification of any delays and deficiencies."

The agents were welcomed to New York by E. Pettit, agent, Pennsylvania, and president of the Freight Agents' Association of New York. Mr. Pettit urged the agents to familiarize themselves with New York operations and stressed the importance of consigning freight for the metropolitan area to the correct freight stations, describing how this should be done.

#### Use Trucks to Build Traffic—Not Divert It

Tuesday afternoon's session was devoted to the consideration of the report of the committee on station traffic, of which G. R. Littell, terminal agent, B. & O., Cleveland, Ohio, is chairman. This committee also presented a report of a sub-committee on traffic solicitation by agents which has been widely distributed by individual railways. On the subject of the co-ordination of rail and truck, the report stated:

"It is a proved fact that the truck is far more flexible than the rail and this provides rapid transportation to any point regardless of where located, whereas the railways can only serve communities located on the rails. Where two or more railroads serve the same territory the truck is in a position to compete with all of them, due to the flexibility of that method of transportation. To compete with this class of transportation, railways should give more consideration to consolidating cars, and load to rail-head points, using the truck for distribution beyond. Freight picked up by same trucks should be hauled to rail-head points and transferred to cars. This method of handling places the rails on a parity with the truck as far as service is concerned. There is some difficulty in obtaining franchises to operate trucks on the highway. However, this can be overcome to some extent by having the proper machinery set up to handle such matters."

The committee also reported on the proper handling of freight destined to various consignees in care of truck lines or carloading and distributing companies at intermediate points.

On the subject of station courtesy and traffic solicitation, the report said:

"Courtesy means not just a pleasant voice on the telephone and a glad hand, but a knowledge of the require-

ments of the shippers and consignees and their effective execution. The station forces represent the point of contact between the railroads and the shippers, and the impression made upon the public by such contact governs the public's opinion of the railroad as a whole. Of course, it is necessary to give prompt handling of freight from origin to destination, but the station forces still have the point of origin and destination impression to make. By anticipating the needs of the shipper and having necessary arrangements made so that there is no delay in receiving the freight and applying the same principle of efficiency in making deliveries, much of the present cause of complaint against the roads will be eliminated. Proper consideration must be given to patrons so they will not have to stand around waiting while some preparation is made, or some freight located, which should have been done before. Much of the business of the roads is secured by freight station forces based on their efficiency and courteous treatment of patrons, and this business can be, and is, held by the carriers based on the attitude of the freight station forces."

Mr. Randall's speech featured the second day's session. Commenting further on the problems brought about by Italy's entrance into the war, he said:

"Movement of freight from New York to Mediterranean ports, and particularly to Italian ports, will now be more or less interfered with, if not stopped completely. While this change in the European situation finds quite a number of the marine units of the carriers under load with freight for such destinations, machinery is already in operation which will cause this freight to be disposed of in one way or another so that it will not embarrass the handling of other business." Declaring that the port situation is "in excellent shape everywhere," the speaker praised the co-operation which has been given the railroads by the steamship companies and port authorities in increasing the efficiency and capacity of the ports. He revealed that the amount of export traffic moving through the Port of New York during the past week or ten days was three-fourths of the volume handled at the peak of the World War movement.

"Information at hand is to the effect that the movement of freight, particularly of war materials, will substantially increase," he continued. "This increase will likely be noticeable at several ports, but, with continued co-operation, there is no question but that the volume can be satisfactorily handled. Not only may we expect to increase in movement to the ports, but the industrial program outlined by the Committee on National Defense indicates a material increase in domestic traffic as well."

Mr. Randall pointed out that in 1918, the government found it necessary to take over the railroads in order that war demands for transportation might be adequately met. There will be no need for government operation of the railroads in the event of another major emergency, he maintained, because "we now have in the Association of American Railroads an organization adequate to meet any demands of commercial or war traffic."

According to the speaker, the A. A. R. possesses all the authority required to meet any such situation, and he said that the appointment of Ralph Budd, president of the Chicago, Burlington & Quincy Railroad, as a member of the President's Committee on National Defense "indicates that the Association will be used as the medium through which the demands of industrial America upon the railroads will be made whenever and wherever co-ordination beyond that ordinarily exercised between individual roads is required."

Speaking of the plan put into effect last November by the Car Service Division of the A. A. R. to prevent



any congestion at the ports, Mr. Randall declared that the results have been satisfactory.

"During the last six months, we have handled a volume of business at some of the Atlantic and Gulf ports in excess of that ever previously handled except at the peak of the World War traffic," he said. "At New York, the volume, excluding grain, during the first quarter of 1940, was roughly 65 per cent over 1939; at Philadelphia, 24 per cent, and at Baltimore, 32 per cent. At the Gulf ports, the increase was also appreciable, that at New Orleans being 80 per cent and that at the Texas ports 20 per cent. The volume during April and the first half of May dropped slightly, but during the last half of May and so far in June has increased appreciably until at the present time we are unloading at New York for lighterage very close to 1,000 cars per working day, of which approximately 87½ per cent is for export."

### Exceptions to Free P. U. & D. Should Be Ended

Following Mr. Randall's address, the committee on station and terminal operation submitted its report. J. P. Moews, of Memphis, Tenn., agent, Illinois Central, chairman of the committee, which recommended pick-up and delivery service as follows:

"Consideration should be given by rail lines toward extending pick-up and delivery service to all classes of l. c. l. traffic. Many roads have a limited pick-up and delivery service on certain l. c. l. traffic which has proved very popular with the shipping public. The popularity of the service is reflected in the vast amount of l. c. l. freight for points where p. u. & d. rates are in effect, which is given the rail carriers. Local city drayage rates are high which makes shipping l. c. l. freight by rail almost prohibitive, resulting in shippers seeking other methods of transportation. P. u. & d. service is a convenience to the shipping public inasmuch as they have to deal with only one transportation company from door to door.

"Free pick-up and delivery service, as advertised to the public by the railroads, should be just that, and the minimum rate requirement eliminated entirely, in order to meet competition from other forms of transportation. The small percentage of such shipments would not greatly penalize the railroads. A patron cannot understand why the delivery service truck delivers one of his shipments and informs him that another was not brought along because of rate or other restrictions. The minimum rate requirement is the differential between railroad and truck service to the public, and its elimination will be another step toward meeting such competition."

This committee also considered the use of intercommunication equipment in handling l. c. l. traffic and reported on the agent's responsibility in promoting greater car efficiency as follows:

"All orders for equipment should be recorded on forms designed to show the names of shippers, location or plant at which car is to be placed, commodity to be loaded, destination and route. With this information at hand, yard forces should be required to make reasonable efforts to supply cars of proper ownership or home route and of the types and sizes ordered. Orders placed with yard forces could be recorded in duplicate, one copy to be detached and forwarded to the agent for his use in following up and endeavoring to correct derelictions on the part of yard forces and in assessing proper charges on Rule 34 and capacity load cars.

"In like manner, copies of orders placed with switching lines could be transmitted to the agent of the line haul carrier and in practically all cases would be in his

possession at the time bills were presented for signature. Shippers are, in some cases, responsible for violations of car service rules. To improve the situation in this respect it is suggested that agents initiate a check of billing or other records with the view to handling the question tactfully with those shippers whose mis-loadings occur more or less frequently. It is believed that the majority will readily understand the seriousness of the matter and will lend their co-operation in reducing the violations." This committee also reported on the segregation of l. c. l. freight in cars and its effect on prompt delivery service.

### Office Operation

Following an inspection trip of the New York harbor facilities, arranged by the Erie on Wednesday afternoon, Chairman W. C. Leitner, agent, C. R. I. & P., reported for the committee on station office operation, dealing particularly with the ramifications of giving an allowance to shippers for pick-up and delivery service. The report stated that pressure from shippers is bound to bring about a change in such tariff allowances and suggested that the railways inaugurate the change before it is forced upon them.

This committee also considered the new storage tariff requirements. Concerning unclaimed reports to shippers and the proposed extension of the credit period to seven days to place the railways on a parity with the truck lines in this respect.

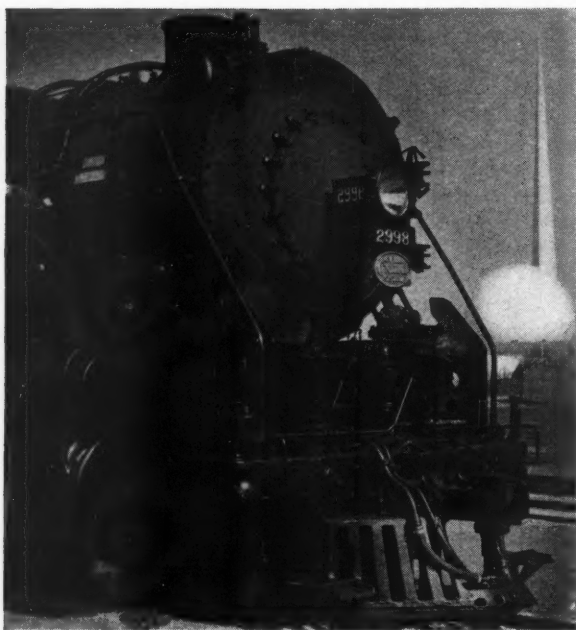
On Thursday afternoon, H. L. Denton, general superintendent of police, B. & O., Baltimore, Md., who is a past chairman of the protective section, A. A. R., addressed the meeting. He gave some informative figures as to claim payments made for concealed losses, which amount to large sums annually. He outlined how agents can co-operate with the police department in reducing these losses, particularly with reference to keeping stragglers away from freighthouse property.

Chairman M. G. Carson, joint agent, C. C. C. & St. L.-C. & O., reported for the committee on loss and damage, the report covering destination reports on damaged freight, proper stowing of freight and the increase in claims chargeable to damage.

The report also described the good results obtained by matching over and short freight through a central office (in this case at Toledo, Ohio) as follows:

"Each railroad office furnishes the secretary of the local freight committee with the particulars of each over and short such as case number, description of articles, shippers' marks, etc., or all the information possible to enable him to match shipments. This is done either by telephone, written reports, or copy of o. s. & d. reports, when an o. s. & d. report is issued. The secretary checks these reports as fast as received, and notifies interested carriers immediately by telephone, who in turn take proper records, and dispose of shipments or match up revenue billing, whichever the case may be.

"This saves tracing original point of shipment for revenue waybill or for shipment and also, eliminates the handling with consignee in approximately 70 per cent of the cases involved. In addition to this, at the end of each month, a detailed statement is furnished the secretary showing the items not cleared, which enables him to check up those not previously reported or that might have been overlooked previously. There is practically no expense involved, and this plan does away with periodical meetings which are expensive, also the loss of time in local offices in tracing each individual carrier to locate a revenue waybill or shortages, and annoying the consignee with unnecessary calls."



# Railroads at the N. Y. Fair, 1940

Huge exhibit area houses group of exhibits and shows livelier than '39

**R**AILROADERS visiting the New York World's Fair of 1940 will find that the 17-acre Railroad Exhibit area—largest single building at the entire exposition—provides a package of varied sights and entertainment that preserves the best features of last year's presentation and adds thereto new items and improved techniques of showmanship, so that the whole scene is fresh and new and different.

"Railroads on Parade," the stirring opera-pageant which attracted over two million paid spectators last year, has been given new stage sets, new music, new costumes and three entirely new scenes, all of which serve to make it a brand new show. Added to the former continuity are: (1) "Sacramento in the Gold Rush Days"; (2) "Lincoln Returns," which depicts the passing of the Great Emancipator's funeral train and thereby rounds out the high-point of the 1939 show; and, (3), the "Gay Nineties," which introduces in the flesh for the first time such memories as the Sunday afternoon bicycle club, "horseless carriages," a 3-horse "steamer" fire apparatus in full glory, and the Central's old "999" which zooms across the stage at a terrifying speed and (this is a secret) grinds to a stop behind the stage just in time to avoid over-running the bumper.

"Railroads on Parade" is presented on a three-level outdoor stage, 250 ft. by 140 ft., carrying two standard tracks for its coal-burning "actors." Some 250 actors and actresses and a symphonic orchestra of 30 pieces, which is out in view of the audience this year, lend the performance the air of "bigness" which is entirely suited to the industry it dramatizes. "Railroads on Parade" is presented four times daily at 11:30 a.m., and 1:30, 3:30 and 5:30 p.m. (all "odd" hours) and seats 4,000 spectators at 25 cents for general seats and 40 cents for reserved space.

"Building the Railroad," the huge "mountain" diorama which depicts in miniature the construction and operation of a railroad "from the ground up" is the joint exhibit of equipment and supply companies serving the railroad industry. The entire exhibit, which last year was decorated for light-and-shadow effects, has been brightened up generally and an entirely new lighting system installed. Scores of overhead flood-lights have been positioned to high-light minute trestle-work, shop operations, etc., and chains of tiny 10-volt lights have been placed in

model buildings to show erection and repair work on model rolling-stock.

To mention but a few of the new features added since last year, part of the artificial mountain has been cut away to show stratification just as the roadway construction engineer finds it; a larger dam and spillway have been erected; the model "metropolis" has been afforded new buildings and miniature street cars now run on its streets to supplement the model railroad beneath in its glass-enclosed terminal.

"Railroads in Action," a complete operating, scale-model railroad, which last year went under the name "Railroads at Work," has been expanded, improved and speeded up for this season. A 1,000 more feet of scale track have been laid, bringing the total to more than 5,000 ft., or the scale-equivalent of 45 mi., and more than 200 locomotives are now in the system's roster. New equipment built by engineers of the railroad exhibit during the winter includes derricks, cranes and articulated locomotives and a complete scale reproduction of the 6-4-4-6, Class S-1 locomotives of the Eastern Railroads which operates under its own steam on rollers outside in the exhibit yard.

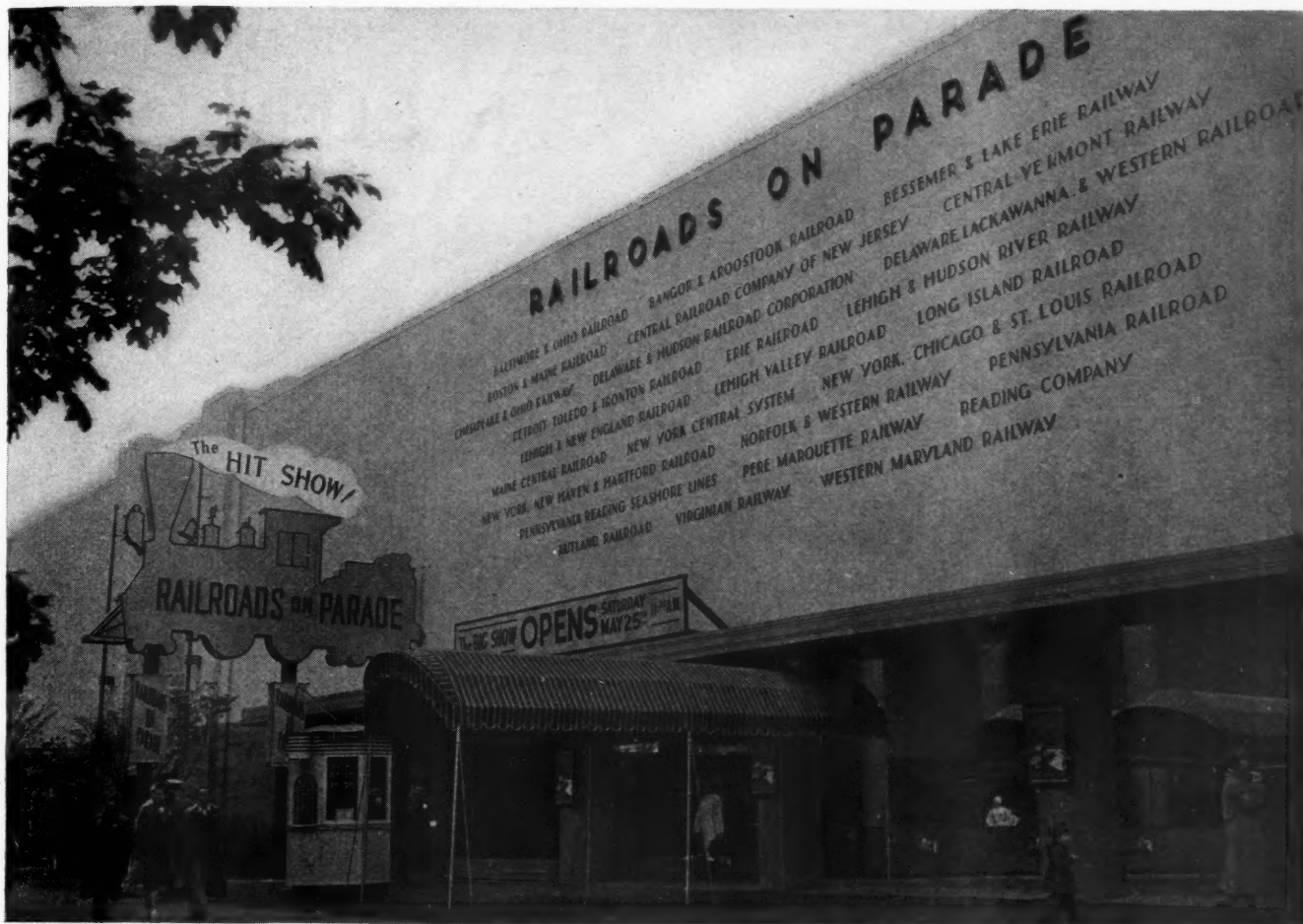
Continuous performances of "Railroads in Action" are presented daily from 10 a.m. to 8 p.m.; admission is 10 cents.

In the extensive track lay-out which has been erected outside the railroad exhibit building there are on display for public inspection a representative group of modern locomotives and cars loaned by various Eastern railroads and equipment manufacturers. The equipment shown is changed from time to time, but at the time of writing, there were to be seen on the track exhibit some 23 freight cars, 6 modern passenger-train cars, 3 modern steam, 1 Diesel-electric and 1 electric locomotive and 2 locomotives of historical interest. In addition, the London, Midland & Scottish's "Coronation Scot," pride of Great Britain, is in its old place on the north side of the yard, and representative passenger and freight equipment of the Italian railways are situated adjacent thereto.

For historical-minded railroaders there have been collected (in addition to those oldsters which appear in the railroad show) a score of interesting old cars and locomotives ranging from the "John Bull" to the first vestibuled luxury cars of the late Eighties.

The railroad exhibit is sponsored by the World's Fair committee of the Eastern Railroad Presidents Conference, representing 27 eastern carriers, of which committee J. M. Davis, president Delaware, Lackawanna & Western, is the chairman. L. G. Coleman is director of "Railroads at the New York World's Fair 1940" and J. M. Fitzgerald, vice-chairman, committee on public relations of the Conference, has executive jurisdiction.

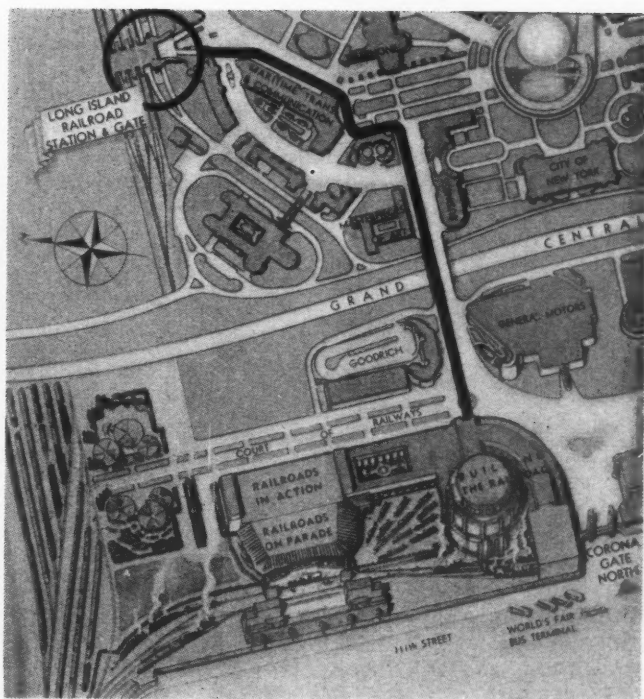


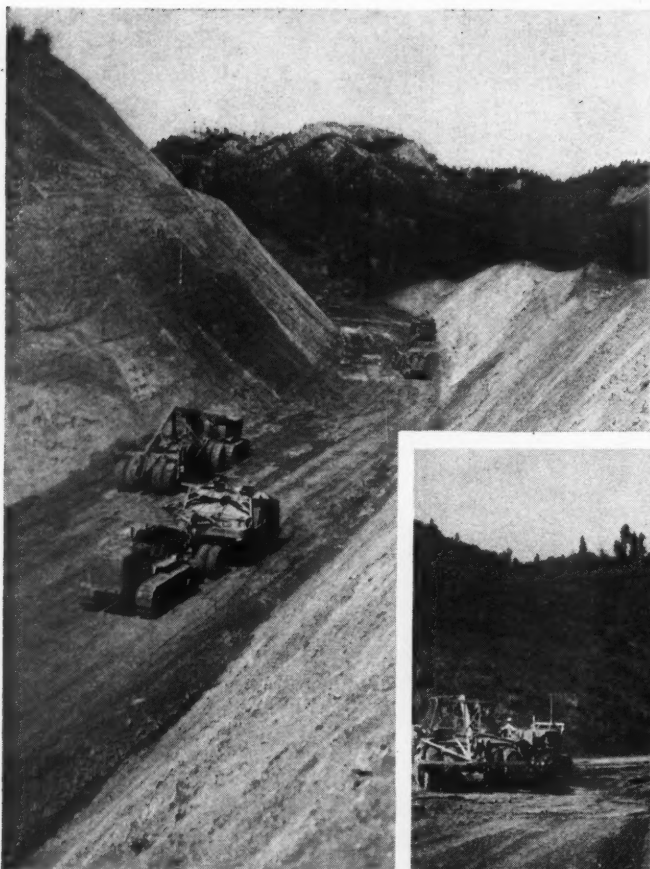


## Railroads Show Off At the Fair

*The Gate*

*The Way*





Power Tractors and Large - Capacity Carryalls Are Being Employed in the Grading Work



## 30-Mile Line

Cuts Up to 1900 Ft. Long and Up to 102 Ft. Deep, and Fills As Long As 2700 Ft. and 105 Ft. High, Are Involved in the Line Relocation Work

ONE of the longest and heaviest pieces of railroad line construction in many years is now actively under way on the Southern Pacific in the upper valley of the Sacramento river in Northern California. This work involves the relocation of a section of that road's existing single-track main line between San Francisco and Los Angeles, Cal., and Portland, Ore., which lies within the area of a large impounding reservoir occasioned by the building of a huge dam in the Sacramento River valley by the federal government. This relocation project, which was begun in September, 1938, involves the construction of 30.1 miles of new single-track line in rugged mountain country, replacing 37.0 miles of circuitous route. The new line rises 659 ft. to a crossing of an arm of the new reservoir, and includes among its outstanding features 12 tunnels with an aggregate length of 18,933 ft., 8 bridges with a combined length of 12,214 ft., and more than 4 million cubic yards of grading in cuts up to 102 ft. deep on their center lines, and fills approaching 105 ft. in height.

Outstanding among the tunnels are the two longest, 2,715 ft. and 2,691 ft. long, respectively, while the more important of the various bridges include one steel viaduct structure 4,350 ft. long over the Sacramento river at Redding, Cal., and another bridge 2,758 ft. long over an arm of the new reservoir at the Pit River valley. This latter bridge, which will be a double-deck structure carrying a four-lane highway above a two-track railroad deck, will have a top deck level 530 ft. above stream-bed, and will involve two piers with heights in

excess of 350 ft. A further indication of the magnitude of the work involved in the line change is the fact that it is estimated to cost approximately \$18,000,000, including the Pit River bridge, which, alone, will cost in excess of \$5,000,000.

### Huge Dam Project

The dam occasioning the Southern Pacific line change is known as the Shasta dam. Located about 175 miles north of the city of Sacramento, Cal., and about 13 miles above Redding, this dam is the key to the government's Central Valley flood control, irrigation and power development project in California, which is designed to prevent the serious periodic floods in the lower Sacramento River valley, and at the same time provide water throughout the year for irrigation in a large section of the fertile, but otherwise semi-arid San Joaquin valley.

The Shasta dam, which will be exceeded in size only by the Grand Coulee dam in the Columbia river, in the state of Washington, will rise to a height of approximately 500 ft. above low water level in the river, and more than 560 ft. above its foundation. Of the concrete gravity type and slightly curved in plan, the dam will have a crest length of 3,500 ft., and a top width of 37 ft. When completed, it is expected that the work will have cost in the neighborhood of \$75,000,000.

Completion of the dam will impound a reservoir which, at full-pool stage will extend approximately 20 miles up the Sacramento canyon, and for even greater distance



# Diversion on the S. P. Involves Heavy Work

Project under way in upper Sacramento River valley to circumvent Shasta Dam reservoir, requires 12 tunnels, 8 bridges and extensive grading

up the canyons of the McCloud and Pit rivers, the principal tributaries to the Sacramento, which join and flow into it approximately five miles above the dam site. This reservoir will inundate the existing line of the Southern Pacific for a distance of approximately 19 miles, covering it at the dam site to a depth of approximately 430 ft. at full-pool stage.

## General Features of New Line

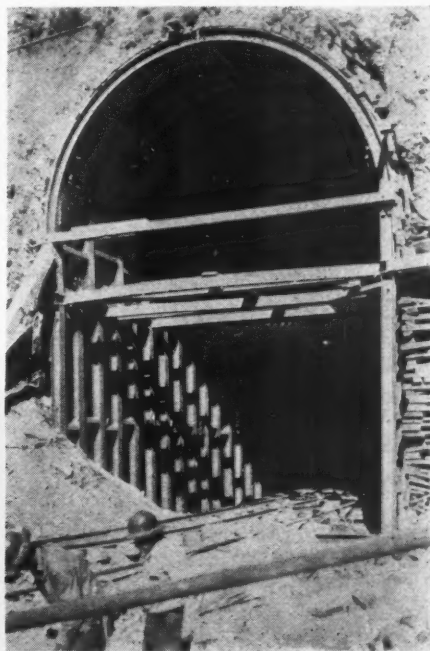
The decision to build the dam immediately presented the problem of relocating the railroad around the reservoir area. With the existing line in this area lying on the west side of the river, consideration was first given to relocating it on that side, primarily in the hope of avoiding expensive bridge crossings. However, compared with a route later established around the east side of the reservoir, with its requirement for eight bridges and twelve tunnels, it was found that the west-side line had a number of disadvantages, including the necessity for much longer tunnels and more difficult operating conditions.

The east-side line finally adopted takes off from the existing line at Mile Post 295.67, near Delta, Cal., at Elev. 1118, and almost immediately swings to the east over the Sacramento river on what is known as the Fourth crossing of that river, and then continues through two tunnels to what is known as the Third crossing of the Sacramento river, at Elev. 1134. From here, the line rises on a maximum 0.5 per cent grade to a summit

at Elev. 1162, and then drops on a maximum 0.7 per cent grade to a crossing of Doney creek at Elev. 1100, and the Second crossing of the Sacramento river, at Elev. 1104. From this point, a distance of 6.0 miles from the north end of the relocated line, the line rises on grades varying up to 0.44 per cent to its main summit at Elev. 1218, 100 ft. above and 12.1 miles distant from its starting point, passing through three tunnels and over crossings of Salt creek and a branch of O'Brien creek.

Immediately over the summit, the line drops off on a gradient varying up to 0.7 per cent, and, within a distance of 3.6 miles to its crossings of the Pit river, at Elev. 1114, passes through five more tunnels. Continuing over the long Pit River bridge on a 0.4 per cent grade downward, the line extends immediately through

Right — H-Beam Reinforcing Is Being Used at Points in the Linings of the Various Tunnels



Left—A View From Above Tunnel No. 2 Looking South Toward Tunnel No. 1, Over the Ravine Between Them, Which Has Been Filled with Tunnel Spoil



The Site of the Second Crossing of the Sacramento River. Just After Excavation Had Been Completed for the Piers and West Abutment

two long tunnels and then continues downward through heavy rolling country on a long varying grade of 0.9 per cent maximum to the First crossing of the Sacramento river at Redding, and a junction with the old line, at Elev. 559 and 30.1 miles from its starting point.

As indicated in the foregoing, the ruling grade northward on the new line (eastbound by timetable direction), which is the direction of lightest traffic, will be 0.9 per cent, while that southward, in the direction of the preponderance of loaded car movements, will be approximately 0.5 per cent. In both directions the grades are compensated for curvature and through tunnels, and also for all passing sidings, of which there will be seven on the new line, ranging in length from 5,700 to 6,700 ft.

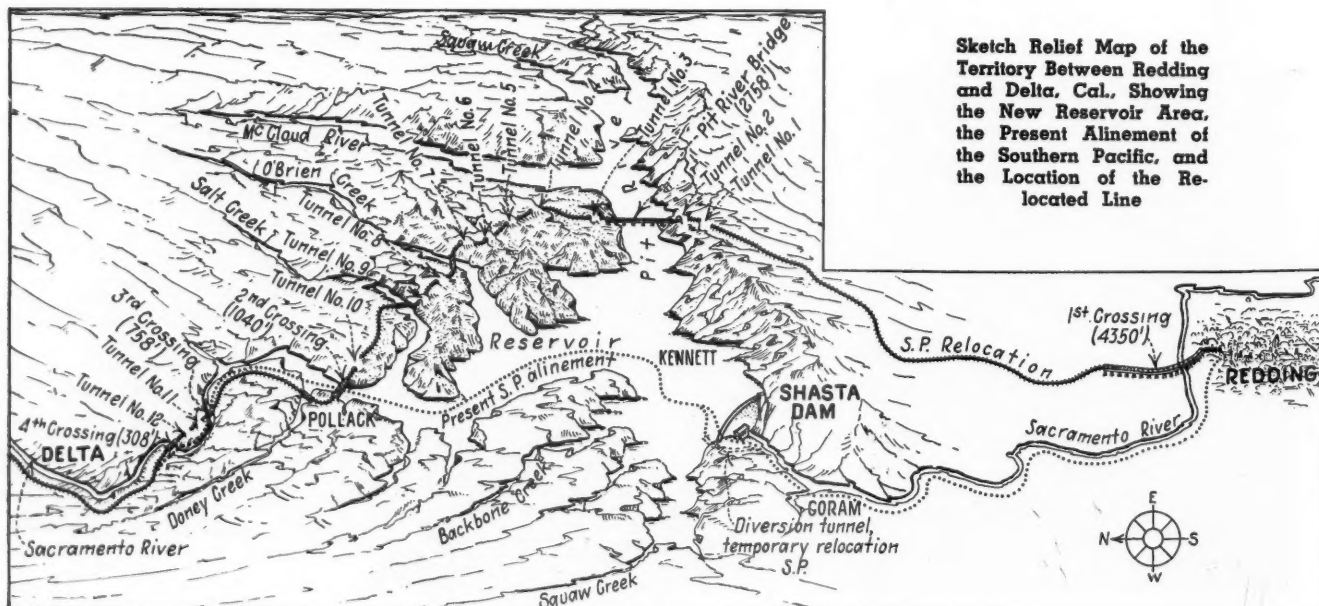
These gradients of the relocated line compare with a ruling grade northward on the old line of 1 per cent, and a ruling grade southward of 0.7 per cent, in both cases compensated for curvature. Other features of comparison between the old and new lines are that the old line is approximately seven miles longer than the new line and has 185 curves up to 10 deg., with combined curvature of 7,132 deg., whereas the new line has only 49 curves, of 4 deg. maximum, with a total curvature of 2,028 deg. That the new line is far from straight, however, is seen in the fact that approximately 17.7 miles of its length is on curves.

### Heavy Grading

As might be expected in mountainous country, grading for the new line is heavy; it will involve a total of approximately 4,115,000 cu. yd. of excavation, or about 137,000 cu. yd. per mile, exclusive of the large volume of material to be removed in the tunnel work. It includes cuts up to 1900 ft. long and up to 102 ft. deep on center line and as much as 227 ft. on the high sides of slopes, with yardages up to 268,000, and many large fills, the largest of which will be 2700 ft. long and 105 ft. high, requiring the placement of approximately 400,000 cu. yd. of material. Heavy as this grading will be, it will represent only a relatively small proportion of the line relocation work as a whole, as is seen in the fact that the grading will approximate only 11 per cent of the total cost of the work.

Throughout the grading operations, the most up-to-date, large-capacity grading equipment has been employed, including as many as 20 to 25 earth-moving carry-alls of 18 to 25 yd. capacity, 20 to 25 hauling tractors, 15 bulldozer-equipped tractors, 8 rotozers, one 2½-yd. Northwest shovel, one 2-yd. Bucyrus-Erie shovel, one 2½-yd. Northwest dragline, one 2½-yd. Lima shovel-dragline-crane, six sheepfoot rollers, and five or six water tank sprinklers. With this equipment, rapid progress has been made, as much as 526,000 cu. yd. of material having been moved during peak months.

The specifications to which the line is being constructed call for a minimum base in cuts of 24 ft., with an additional 1½ ft. on the outside of curves. The angle of the side slopes of cuts varies with conditions, being determined for each location on the basis of the character of the material encountered. Where cuts are



Sketch Relief Map of the Territory Between Redding and Delta, Cal., Showing the New Reservoir Area, the Present Alinement of the Southern Pacific, and the Location of the Relocated Line



This View Shows the First Crossing of the Sacramento River, at Redding, Cal., 4,350 Ft. Long, Before Its Deck Was Completed



more than 60 ft. in height, berms, 16 ft. in width, are being provided at the 60-ft. level. Fills are being constructed with a minimum top width of 20 ft., with an additional width equal to at least 10 per cent of their height, and where the toes of fills extend below the maximum high water level in the reservoir area, special care is being taken in their construction by providing additional width, flatter slopes, and materials which will not deteriorate with the action of water.

One of the outstanding features of the grading work is the care with which the fills are being constructed in order to prevent shrinkage and subsidence under operation. This begins with laboratory testing by the Federal Bureau of Reclamation of all materials that are to be used in fills before filling operations are begun, and requires adherence to stringent specifications concerning the use of various classes of materials and the manner in which they are to be placed.

Throughout, the new main line is being laid with treated crossties on stone ballast, employing 131-lb. rail on all curves and bridges and in tunnels, and 112-lb. rail elsewhere on tangent track. In the interest of securing the greatest traffic capacity on the new line, it is being equipped throughout with automatic signals and centralized traffic control.

#### Extensive Bridge Work

That bridge construction on the new line is assuming large proportions is evidenced by the fact that the eight major crossings over waterways, all single track except the one over the Pit river, will involve an expenditure in excess of \$10,000,000, which represents approximately 55 per cent of the total cost of the new line work. Of the bridges, the most unusual will be that constructed over the Pit River arm of the new reservoir, which, as already pointed out, will be a double-deck, truss structure, carrying two railway tracks on the lower deck and a four-lane highway, with flanking sidewalks, on the upper deck. Spanning the deep gorge of the river, with underclearance of approximately 420 ft. and a height of 492 ft. to the highway level, although only 30 ft. clear of peak-stage reservoir water level, this bridge, it is said, will be the highest double-deck bridge in the world. The structure will include a main cantilever span 630 ft. long; two flanking anchor spans, each 497 ft. long; three additional truss spans, each 282 ft. long; and two end truss spans, each 141 ft. long. Supplementing this main section of the bridge, with an overall length of 2,758 ft., there will be four deck plate

girder highway approach spans at the north end, with an aggregate length of 564 ft., and one girder highway approach span at the south end, with a length of 150 ft.

One of the most unusual features of the Pit river crossing will be the two main cantilever span piers, both in excess of 350 ft. high; the tallest being 358 ft. high, with a base area 95 ft. by 90 ft. These two piers, as well as the third largest pier, will have mass footings, with twin-shaft tops connected by horizontal struts and incorporating cellular centers that will fill with water. Further features of the larger piers are that they were designed and are being constructed in accordance with the latest theories of earthquake-resistant construction, and that, because of the large masses of concrete involved, their footings are being cooled during curing by means of water circulating systems.

The longest bridge on the relocated line is at the first crossing of the Sacramento river, at Redding, where the structure, on a long curve, has an overall length of 4,350 ft. This bridge, which has been completed, involves three deck truss spans directly over the river channel, each 165 ft. long, supported on concrete piers; an 894-ft. south approach viaduct, consisting of a series of deck girder and tower girder spans, supported on structural steel towers with concrete pedestal footings; and a 2,946-ft. north approach viaduct, consisting, like the south approach, of a series of deck girder and tower girder spans, supported on structural steel towers with concrete pedestal footings. The maximum height of this bridge to base of rail is 99 ft.

The other more important bridge structures on the line, all of which will be supported on concrete piers and abutments, will include the Salt Creek structure, 1391 ft. long, with a maximum height of 165 ft.; the O'Brien Creek structure, 1028 ft. long and 181 ft. high; the Doney Creek structure, with an overall length of 581 ft. and a maximum height of 157 ft.; the Second crossing of the Sacramento river, with an overall length of 1040 ft. and a maximum height of 191 ft.; the Third crossing of the Sacramento river, with an overall length of 758 ft. and a maximum height of 101 ft.; and the Fourth crossing of the Sacramento river, 308 ft. long and 60 ft. high. Together, these main structures, with an aggregate length of 12,214 ft., will involve the erection of 27,000 tons of structural steel and the placement of 175,000 cu. yd. of concrete. All of the bridges are designed for Cooper's E-72 loading, and their decks will be similar in that they will all employ chromated-zinc-chloride-treated ties. The ties on all of the bridges will be 10 in. by 11½ in. on tangents and 10 in. by 11½ in. to

14½ in. on curves, except in the case of the Pit River bridge, where 10-in. by 10-in. ties will be used.

An interesting feature of the piers for the various bridges is the fact that while all of the bridges, with the exception of that over the Pit River arm of the reservoir, are being built for a single track, the piers of certain of the bridges, where the pier footings are below the low draw-down level of the reservoir, are being constructed for an eventual two-track superstructure to a height above low-draw-down level. Above this level they are being brought up as single-track shafts. Thus, these piers can be built up to carry a second track at a later date, if desired, without the difficulties involved in establishing new foundation areas under water.

The fact that the relocated line is at a high level through the mountain ridges necessarily increased the size and length of certain of the bridge structures required, but, at the same time, it minimized the number and size of culverts and other smaller waterway openings necessary. However, among these latter types of structures, the new line work requires the installation of 131 pipe culverts, 12 in. to 60 in. in diameter, with a total length of 8,924 ft.; six concrete arches with crown heights of 10, 12 and 16 ft.; having a total length of 1,196 ft.; 68 single concrete box culverts with openings varying from 3 ft. by 3 ft. to 8 ft. by 8 ft., with an aggregate length of approximately 9,656 ft.; and six double concrete boxes, with openings varying from 3 ft. by 5 ft. to 6 ft. by 7 ft. and having a combined length of 420 ft. A number of these smaller openings were provided beneath the new line in connection with channel changes, and in several cases the waterways on the high sides of the fills were raised considerably in order that the openings through the fills would discharge above high water level in the reservoir on the downstream side.

### Heavy Tunnel Work

With 12 tunnels on the new line, ranging in length from 915 ft. to 2,715 ft. and with an aggregate length of 18,933 ft. and involving approximately 490,000 cu. yd. of excavation, largely rock, it is evident that this class of work is a large phase of the line relocation project. All of the tunnels are being holed through as single-track bores, with consideration being given to subsequent double tracking by the provision of parallel single-track bores, and all of them will be lined with concrete, with concrete wall footings, side gutters and ballast curbs, the lining itself being reinforced with either H-beam wall posts and curved segmental arches, or with steel reinforcing bars, depending upon the nature of the ground. Likewise, depending upon ground conditions, the concrete lining will vary in thickness.

All of the tunnels are being constructed to a minimum width of 17 ft., widened out to as much as 18 ft. where gauntlet track or curvature are involved, and are being provided with a minimum crown height of 22 ft. 6 in. above top of rail. In the six longest tunnels—No. 1, with a length of 2,715 ft.; No. 2, with a length of 2,691 ft.; No. 3, with a length of 1,804 ft.; No. 5, with a length of 1,900 ft.; No. 7, with a length of 1,605 ft.; and No. 10, with a length of 2,235 ft.—where the worst smoke conditions are anticipated, the crown height is being increased to 24 ft. Likewise, to offset wet rails which may prevail in these tunnels, with the increased tendency for wheels to slip, the grades within them are being lightened below the ruling grade.

Depending upon the class of excavation involved and other special conditions, the methods used in mucking out the tunnels have varied somewhat, and the work has been carried out either continuously from one end

or simultaneously from both ends. However, penetrating hard and stable rock for the most part in all of the tunnels, it has been possible quite generally in the work thus far to hole out the entire heading at one time, resorting to separate wall plate drifts to only a limited extent. Fairly typical of the tunnel work is that carried out in Tunnels No. 1 and 2, the longest and most southerly tunnels on the line, which are separated by a distance of only 760 ft. across a deep ravine. In these tunnels, the excavation of which has been completed, the driving in each was from the end facing the other tunnel, largely to eliminate the necessity for a double plant for the contractor, but also because of the inability to dispose of the material from Tunnel No. 2 at its Pit River end.

Excavating the full face at one time in each of these tunnels, the drilling was done from jumbos supporting 8 to 12 drifter drills. All material shot down was loaded by Conway mucking machines into 4-yd. side-dump cars, transferred at the headings for loading by means of "cherry-pickers" and hauled to the dump by electric locomotives. The contractor's plants involved in the building of these two tunnels, including air compressor plants, drill-sharpening and other shops, and concrete mixing plants, were conveniently located on a plateau of tunnel spoil built out into the ravine between the tunnels.

### Line Diversion Tunnel at Dam Site

While not a part of the relocated line itself, a thirteenth tunnel was constructed during the early stages of the project, to remove the existing main line of the Southern Pacific directly at the dam site to a point where it would not interfere with an early start on the dam foundation excavation. This tunnel, a single-track bore 1,821 ft. long, with a special horse-shoe shaped section and lined throughout with concrete, was holed through rock west of the existing line and at a point where it would be a minimum of 60 ft. through solid rock to the nearest concrete of the dam anchorage.

Through the construction of this tunnel and the routing of all train movements through it, all interference with the dam work has been avoided. Following the completion of the 30-mile relocated line and the shifting of all railway operation to that line, it is planned to use this tunnel as a by-pass for the flow of the Sacramento river pending the completion of the dam. Eventually, the tunnel will be closed by a concrete plug to be built in it near the upstream face of the dam, leaving the open portion of the tunnel below the plug available for housing penstocks or for other purposes in connection with the operation of dam and power-development facilities to be built.

### Railroad Being Built by Government

Occasioned entirely by the government's Central Valley project, the federal government is constructing the new 30-mile section of Southern Pacific main line around the Shasta reservoir at government expense, and under an agreement which makes available for use during the first five years of its operation, a total sum of \$350,000 for the extra maintenance costs which may be occasioned during what may be considered the early seasoning period of the new line. Title to the large Pit River bridge will remain with the government, but the operation and maintenance of the bridge will be turned over jointly to the Southern Pacific and California highway authorities.

All of the railroad relocation work, with the exception



of the track laying and signal installations, which are being carried out by the Southern Pacific forces, is being done under contract by the Federal Bureau of Reclamation, of which R. F. Walter is chief engineer. Ralph Lowry, construction engineer, has general supervision over all of the dam and railroad work, while R. M. Snell, assistant engineer of the Bureau, is in direct charge of the railroad project. The large interests of the Southern Pacific in the project, both as regards the location and construction of the new line are in the hands of W. H. Kirkbride, chief engineer, and his staff, represented on the ground by J. A. Given, location division engineer, with headquarters at Redding.

As of May 1, approximately 55 per cent of the entire railroad relocation project was completed, including the completion of Tunnels No. 1, 2, 11, and 12; all of the bridges over the Sacramento river, except one, as well as those over O'Brien, Salt and Doney creeks; and approximately 84 per cent of all grading. The track and signal work are following closely behind the roadway construction and it is expected that the new line will be put in operation late in 1941. The new Shasta dam will not be completed and ready for service until some time in 1943.

## Speed Found Cause of Derailment at Little Falls

(Continued from page 1102)

control apparatus. "It was the practice for the enginemen to make a brake-pipe reduction about 3,000 ft. east of the point of accident, sufficient to reduce the speed to about 45 m.p.h. before the engine reached the curve, and to release the brakes just before entering the curve; according to instructions, the throttle was left open so that the train would enter and round the curve smoothly."

According to the evidence, train No. 19 was going about 59 m.p.h.—11 m.p.h. in excess of maximum safe speed and about 19 m.p.h. less than overturning speed—on the curve when the locomotive derailed and overturned to the outside of the curve; derailment marks indicate that the engine started to overturn prior to being derailed. "The investigation disclosed that the train separated at the rear end of the tender; also, each of the first six cars was completely separated at both couplings, two of these cars remaining upright and four being overturned; the seventh to tenth cars, inclusive, were not completely separated but stopped in various positions and at various angles to the track. Many of the couplers on the first ten cars were pulled out, broken or otherwise badly damaged. The front truck of the eleventh car was derailed, but the rear truck of this car and the last four cars remained on the track and the couplers were not damaged. None of the cars was telescoped; the greater part of the damage was in the superstructures of the cars which became separated as a result of the derailment." The report added the opinion that "had the cars remained in alignment it is probable there would have been less damage to the equipment."

Most important witness in the investigation was Road Foreman of Engines Bayreuther who was riding the locomotive at the time of accident and recovered in sufficient time to present testimony covering the actions of Engineman Earl, who was killed. He testified that the latter forestalled at both restrictive signals approaching the curve but after passing the second signal did not make a sufficiently heavy brake application for the speed of the train and distance to the curve. The road foreman

crossed to the right side of the cab and noticed a reduction of only 11 or 12 lb. indicated by the gage and that the speed recorder of the valve-pilot mechanism indicated a speed of 61 m.p.h. He warned the engineman and instructed him to make a further brake-pipe reduction. "The engineman did not answer but closed the throttle suddenly just as the engine entered the critical point of the curve; he did not seem to be ill, but rather in despair and mumbled something as though he realized something was wrong. The engine did not seem to bear heavily against the high rail; however, after the throttle was closed he thought the rear end of the engine started to leave the rail first and there was a jack-knife action at the connection between the engine and tender as though some added force caused the engine to become derailed and overturn."

The report also comments on the factor of run-in of slack in part as follows: "Apparently another condition combined with the speed of 59 m.p.h. was necessary to cause the derailment. When the engineman closed the throttle suddenly, the engine undoubtedly set up a considerable retarding action, and there was a surge or heavy run-in of slack following the closing of the throttle. The sudden force would be dissipated in a tangential line, which would be to the outside of the curve. The tendency of the spring-borne load of a moving vehicle, when speed is being rapidly retarded, is to incline forward and downward; this action results in weight being shifted from the rear end to the front end, and it is probable that this action occurred immediately after the engineman closed the throttle. Because of the excessive speed, there was a shifting of weight from the low rail to the high rail, resulting in about 75 per cent of the weight of the engine being carried on the high rail. From the foregoing, it appears that a sudden run-in of the train combined with the excessive speed was sufficient to overturn the engine or to lift the wheels of the rear end of the engine over the outside rail without marking it."

### The Public Service Commission Report

The Public Service Commission report, submitted by M. C. Cleveland, chief engineer, finds "no evidence that this accident was caused by anything but excessive speed." It observes that the engineman was well qualified, had a good service record and had observed the speed restriction on previous trips and forestalled at the two signals east of the curve, but that "for some unknown reason" he released the brakes when the speed was reduced to 59 m.p.h. and did not apply them again. The report raises the question: "Mr. Earl was one month under 67 years of age and the question arises as to whether or not advanced age might have been the cause of a mental lapse for a few moments and that his agitation or confusion reported by Mr. Bayreuther was due to the fact that he knew that he had not decreased the speed enough and not wanting to apply the brakes on the curve was at a loss to know just what to do."

Mr. Cleveland recommended that "the company consider the matter of using only enginemen on fast trains who are under 60 years of age, and furnish the Commission as soon as practicable a full statement outlining the company's attitude with regard to such a policy and what, if any, objections there are to such a rule." He also ruled that "public safety requires that the speed restriction on Gulf curve be reduced to 40 m.p.h." The report devotes a number of pages to a consideration of the possibilities of reducing the curvature at Gulf curve and also to the question of transferring high-speed operations to the paralleling West Shore, but finds that both are ruled out by prohibitive costs.

# Senate Forwarder Hearings

National Industrial Traffic League and others representing shipper interests give their views to Senator Reed

WASHINGTON, D. C.

**H**EARINGS wherein a sub-committee of the Senate committee on interstate commerce has been pursuing its investigation of railroad methods of handling l. c. l., forwarder and express traffic while at the same time considering forwarder regulation bills pending before the Senate were temporarily concluded on June 18.

The investigation was called for in Senate Resolution 146, while the regulatory bills are S. 3665, authored by Chairman Eastman of the Interstate Commerce Commission; S. 3666, which embodies modifications of the Eastman bill in accordance with the views of the Freight Consolidators & Forwarders Institute; and S. 4096, the so-called "stop-gap" bill which (pending enactment of more comprehensive legislation) would apply various sections of the Motor Carrier Act to forwarders and thereby sanction those joint-rate arrangements with motor carriers which must be canceled by July 20 under outstanding orders of the I. C. C.

Reverting occasionally to that "no-holds-barred" character which featured the earlier sessions, the hearings subsequent to those reported in last week's issue brought forth from Senator Reed, Republican of Kansas, a few additional shots at railroad traffic men in general and the Association of American Railroads in particular. The sharpest of the latter came during the presentation made by John B. Keeler, chairman of the legislative committee of the National Industrial Traffic League, whom Senator Reed challenged to cite one outstanding achievement of A. A. R. Mr. Keeler was "all for" the A. A. R., but he was unable to become sufficiently specific in his citations to satisfy the Senator; whereupon the Kansan told the witness that, so far as outstanding A. A. R. achievements were concerned, one of the Association's directors "told me he didn't know of a dammed one." Except for brief visits to the opening sessions, Chairman Wheeler of the Senate committee on interstate commerce and of the sub-committee has left the hearings in Senator Reed's charge; the third member of the sub-committee—Senator Hill, Democrat of Alabama—has not been sitting at all.

## Would Take "Undue Inflation" Out of Rail Rates

In addition to the aforementioned one made by Mr. Keeler on behalf of the N. I. T. League, presentations not previously reported in *Railway Age* have included those of Jerome Girard, general manager of the Wisconsin Motor Carriers Association; E. L. Hart, secretary of the Atlanta (Ga.) Freight Bureau; and a number of representatives of organizations of shippers and traffic managers of individual shippers—the latter group generally pleading for legislative action which would continue forwarder services on the present basis. An exception was L. F. Orr, traffic manager of the Pet Milk Company, who sees forwarders and truckers as pickers-and-choosers and who called for an approach to the surplus transportation problem from the first-things-first standpoint, i. e., he would revise the rail rate structure to remove some of what he called the "undue inflation,"

thereby contracting the happy-hunting ground of pickers-and-choosers and "forcing traffic into more economically sound channels."

General Manager Girard of the Wisconsin Motor Carriers Association said that he was authorized to speak also for 380 non-member truckers. The majority of those he represented, the witness said, are "little fellers," serving communities not served by railroads; and they have formed through routes with the forwarders to give the small communities a "through service" not previously available. If nothing is done to alter the present situation wherein the forwarders' joint arrangements with the truckers must be canceled by July 20, Mr. Girard predicted that the highway carriers he represented would lose "substantial tonnage" while the small communities would be deprived of their through service. This is because the truckers would have no means of carrying on in view of the disposition of the railroads to avoid making joint arrangements with motor carriers.

## Keeler Appears for N. I. T. League

Chairman Keeler of the N. I. T. League's legislative committee identified himself as chairman also of the special committee that was created to canvass the membership of the league with regard to Senate Resolution 146. A questionnaire was sent out in the latter connection, and replies disclosed "rather wide differences of opinion with regard to forwarders." Generally, however, the respondents to the questionnaire fell into three classes: Those who want nothing done "that will interfere in any way with forwarder operations," because of their feeling that forwarders are "an absolutely essential part of our traffic handling system," and "are guilty of no discriminatory practices"; those—"the most numerous class"—who feel that forwarders "occupy and should be permitted to continue to occupy, an important place in our transportation setup, but who also recognize that certain forwarders at least have indulged in, and are still indulging in, practices which if indulged in by carriers subject to the Act would be unlawful and that the forwarders should be subjected to regulation by the commission"; and those "who feel that the forwarder is an interloper that lives off the cream of the l. c. l. business leaving the railroads' own l. c. l. service to be precariously maintained by the least nourishing traffic."

The latter group, Mr. Keeler explained, "represents a small minority compared with those who maintain that the forwarders should be permitted to continue to operate at least until some better system of handling l. c. l. traffic is evolved by the railroads." Furthermore, the responding N. I. T. League members treated savings in freight charges as less important than the better service they obtained from forwarders, and gave frequent expression to the view that "forwarders are the only agencies effectively co-ordinating rail, truck and water service."

Coming to the question of pooling l. c. l. traffic, Mr. Keeler reported that in that connection also, the N. I. T.



League members expressed "widely divergent views." Many of those who want to see the forwarders maintained "argue that the past attitude of the rail carriers toward l. c. l. traffic and their present attitude, with perhaps certain exceptions, gives little ground for hope that generally speaking, material savings would be afforded or better service result from either nationwide or regional pooling." Also, "they and others feel that any benefits to be derived from pooling must come through voluntary action of the carriers and that any attempt to force pooling either through Congressional decree or through commission action is foredoomed to failure." Mr. Keeler surmised that this view was based on a feeling that "efficiency comes only when the heart is with the project and that it is axiomatic that efficiency cannot be legislated into any organization."

### Opposes Compulsory Pooling

Here Senator Reed broke in to ask if Mr. Keeler had much hope that the railroads would arrange an l. c. l. pool voluntarily; and getting a negative reply, the Senator expressed his agreement with the view that the railroads are unlikely to make any "honest-to-goodness" effort in that direction. Nevertheless Mr. Keeler proceeded to argue against compulsion, which he thought would be "unwise" at this time when the railroads are doing something, as evidenced by the work of the Merchandise Committee which is studying the merchandise-handling problem, and of the Special Classification Committee which is studying matters of classification simplification. The N. I. T. League, Mr. Keeler went on, has been assured "that the appointment of these committees is not to be viewed as a mere gesture on the part of the railroads but rather that considerable good is expected to come from their efforts." The witness found another argument against compulsory l. c. l. pooling at this time in the desirability of awaiting the outcome of the commission's general Nos. 28300 and 28310 investigations of the class rate structure and consolidated classification.

Breaking in again at this point, Senator Reed opened the discussion which led up to his aforementioned reference to the A. A. R. director who was unaware of any outstanding achievement by that Association. First, the Senator drew from Mr. Keeler the opinion that the Merchandise and Special Classification committees hadn't brought out anything "very startling"; although the N. I. T. League representative insisted that those committees have done "some things and are still functioning." He added that individual roads also are active, citing the "intensive study" that the Pennsylvania has been giving to the merchandise-traffic problem. While there are differences of opinion, he went on, the l. c. l. question is a "live subject" throughout the railroad industry.

When Mr. Keeler here restated the League's view that there should be no compulsory pooling, Senator Reed observed that the League appeared to have no position, "except to wait and see." The witness disagreed with that statement, calling attention to the League's position in favor of forwarder regulation; but the League does want to leave the pooling matter alone just now. When Senator Reed next asked if any railroad except the Pennsylvania were doing anything about l. c. l., Mr. Keeler replied that when he had recently posed a similar question to a group of railway men they "hopped all over me" with claims that their roads had done as much as the P. R. R., although their efforts had received less publicity. The Senator then asked what stirred up such activity, and Mr. Keeler

expressed the opinion that "Senate Resolution 146 had considerable to do with it." He went on to tell the Kansan that prior to the passage of that measure there was some activity, but the real pressure came afterward. "And," the Senator observed, "without that pressure they'd have run along as they have in the past 100 years, not doing much unless they were forced to."

### On What A. A. R. Has Accomplished

From the foregoing remark Mr. Reed went on to recall how when the A. A. R. was formed "a great deal was said" about what the new organization was going to do because it had so much more authority than its predecessor—the American Railway Association. Then he asked Mr. Keeler: "Can you think of anything the A. A. R. has done?" The witness said he could, and the Senator said he'd like to hear about it. Whereupon Mr. Keeler suggested that the A. A. R. has done "considerable constructive work in connection with equipment and service." He added that "of course, they also have their accounting and statistical departments that do a considerable amount of good"; while the Traffic Department has created the aforementioned committees that have "produced some results." Finally, the Association generally has co-operated with the shippers. Senator Reed asked Mr. Keeler to be more specific, because "if they've done some good, God knows I'd like to hear about it." Mr. Keeler protested that he had been caught unprepared for such a request for a bill of particulars, but he would be glad to canvass the League membership and prepare some specific citations of A. A. R. accomplishments. He nevertheless repeated his view that the A. A. R. has done things of benefit to shippers, adding "I'm for 'em." But Senator Reed remained unsatisfied, and suggested that if A. A. R. achievements were outstanding Mr. Keeler could recall them off-hand.

Taking the rate situation as an example, the Senator reminded the witness that shippers still have to go after rate adjustments through the regional rate committees. Mr. Keeler conceded that such procedure has not been changed as a result of A. A. R. action; and he admitted also that many industrial traffic managers feel that these rate committees don't function as expeditiously as they might. He pointed out, however, that delays and inaction are often the result of shippers asking something the railroads feel unable to give; but meanwhile the shippers go out and "blow off" about the treatment they are receiving.

Resuming the reading of his prepared statement, Mr. Keeler said that his committee's questionnaire drew "practically no criticism" of express service, although there was some complaint (not general) "that express rates are in some instances too high." Some respondents commented "upon the lessened importance of express service since the forwarders have come so prominently into the picture." Before discussing the regulatory bills, the witness summed up the League's position with respect to the issues raised in the "146" investigation. Briefly, the League thinks the forwarders have a definite place in the transport set-up; that forwarders should be regulated; and that the railroads could save money and improve l. c. l. services by pooled operations, but they should not be compelled to enter pooling arrangements.

### How N. I. T. League Wants Forwarders Regulated

With respect to forwarder regulation, the League favors S. 3665, the so-called Eastman bill with various modifications. Among other things the latter would in-

clude a provision authorizing the forwarders to enter joint-rate arrangements with other common carriers subject to federal regulation; a change in the "grandfather-clause" date from August 1, 1937, to "the date this act becomes effective"; elimination of the "death sentence" and substitution therefor of provisions whereby the matter of ownership of forwarders by other carriers would be left up to the I. C. C.; liberalization of the section which would require forwarders to pay the tariff charges of the carriers utilized so as to permit the making of contract arrangements with such carriers; and provisions authorizing the I. C. C. to award reparations in connection with forwarder charges. The League believes that comprehensive forwarder regulation should be enacted at this session; in the event that such action should prove impractical it urges the enactment of "temporary legislation with a definite expiration date only to preserve the status quo of present forwarder operations pending permanent legislation."

Secretary Hart of the Atlanta Freight Bureau spoke also on behalf of the Southern Traffic League, his statement dealing principally with the forwarder regulation bills. He stated at the outset that the organizations for which he spoke "have no particular quarrel with the freight forwarders, if their original status of that of a shipper is maintained." Their principal objection "is the apparent desire to perpetuate the forwarder as now constituted, by way of regulation, which, if accomplished, will undoubtedly have a far-reaching and, in my opinion, harmful effect on the present rate structure of the regulated transport agencies, by virtue of the forwarders' ability to bring pressure to bear on those agencies for concessions in rates that would unduly prefer one class of shippers as compared with another, and, necessarily, would disrupt economic conditions in some sections of the country at least. Additionally, it would add a new and unnecessary transport agency to an already overcrowded field."

Mr. Hart conceded that forwarders have effected co-ordinated transportation services, but he suggested that their ability to reach "their present stage of perfection" has been due in large measure "to the grossly inefficient methods of the railroads" in handling l. c. l. and "the abominable and unnecessarily expensive service they were rendering in connection with such traffic." Mr. Hart thinks that "existing regulated transportation agencies" could have done the same thing that the forwarders have done "if they had elected to do so, by co-ordinating the presently available facilities, and with less disruption in the rate structure." Moreover it was the witness' further view that the forwarder, charging generally the "antiquated" rail l. c. l. rates, has no disposition to bring benefits to the shipping public, but "merely desires to get in bed and under the same old worn-out blanket with the rail carriers." Thus it is apparent to Mr. Hart that regulation of the forwarder "could only result in a further intensive campaign by them to secure preferential rates from other transport agencies, without any compensating benefit to the shipping public."

#### Hits Rails' Refusal to Join in Rates with Trucks

Continuing in the same general tone, Mr. Hart criticized the railroads for refusing to enter joint rates with motor carriers, and suggested that the I. C. C. should have the power to compel such joint arrangements. Also, he opposed "stop-gap" regulation of forwarders, in which connection he expressed the view that Congress would be in a better position to enact comprehensive regulation if it would defer the whole matter until some-

thing was known of the effect of the I. C. C. orders which require the cancelation of forwarder-truck joint-rate arrangements on July 20. However, if Congress is going to act, Mr. Hart favors the Eastman bill; and he is "unalterably" opposed to the modifications suggested by the N. I. T. League as well as to S. 3666, the so-called Institute bill—both of which "seek to legalize practices which have been condemned by the commission." Meanwhile, however, the witness insisted on his aforementioned view that "no valid reason has been advanced why there should be a new agency created for the handling of merchandise traffic when there is a surplus of regulated agencies now in existence capable of providing the public with satisfactory service at possibly less cost, should they desire to do so."

Turning to the "all-commodity" rates which are used mainly by the forwarders, Mr. Hart called such tariffs "discriminatory," and cited evidence in the recent case involving all-commodity rates to the South to sustain an assertion that "the rail carriers cannot support the claim that forwarder carload traffic is added traffic in the sense that it had not previously moved via the rail carriers in regular less-than-carload service." After next reviewing generally the transport services available to Southern shippers and warning that regulation should look to preventing the development of "a wasteful over-supply" of transport facilities, Mr. Hart closed with a plea for efficient and economical l. c. l. service performed, "at rates especially designed to attract such traffic," by the railroads themselves, by some railroad-controlled agency, or by co-ordination with other regulated agencies. He opposed "legislative recognition of forwarders as now constituted as common carriers," and thus he recommended that the sub-committee report the pending regulatory bills adversely.

#### Orr's Call for "First-Things-First" Approach

Traffic Manager Orr of the Pet Milk Company was also a member of the N. I. T. League's special committee on Senate Resolution 146 which collaborated in gathering the information that formed the basis of Mr. Keeler's presentation on behalf of the League. However, Mr. Orr appears to have been one of that "small minority" that Mr. Keeler found with views to the effect that the forwarder "is an interloper that lives off the cream of the l. c. l. business . . ." Mr. Orr thought that the primary question raised by the "146" investigation was one of determining "how merchandise traffic may be handled more attractively and economically as a part of a sounder and more economical system of national transportation and what additional law is necessary, if any, to best accomplish this purpose." Noting how the investment in transportation facilities has trebled since 1920 "without any appreciable gain in traffic," Mr. Orr calculated that the railroads between 1923 and 1939 lost 29,200,000 tons of merchandise traffic; and he found "much to indicate" that the loss of carload traffic to competing agencies "has been equally as great." On the basis of the best available information he estimated that railroad competitors, including the private truck, have captured "approximately one-third of the total transportation revenues."

In 1939, Mr. Orr went on, the railroads handled 14,800,000 tons of merchandise traffic for an average of \$16.96 per ton and 2,800,000 tons of forwarder traffic for an average revenue of \$16.00 per ton. He added that "if the forwarders had handled the remaining rail merchandise traffic at full rail rates, according to their average handling cost of \$4.75 per ton, developed in Docket 27,365, they would have lost \$56,000,000 on this



added traffic." Thus it was "obvious" to the witness "that the forwarders can afford to handle only high-rated volume traffic and have left the small-lot, low-rated traffic for the railroads."

Dealing with what has been said "as to the profitability of forwarder traffic to the railroads," Mr. Orr pointed out that comparisons in that connection have been between forwarder traffic in carloads and l. c. l. remaining on the rails. In his opinion, "this is manifestly improper because the forwarders have taken the best-paying business as well as the long-haul traffic," i. e., "the average rating on forwarder traffic is much higher than on less-carload traffic and the haul is almost twice as great." The "real test," Mr. Orr suggested, "is the profitability of forwarder traffic if handled in less-carload service"; but to his knowledge no analysis of that sort has ever been made.

### Suggested Revision of Rail Rates

Nevertheless, Mr. Orr next emphasized how the forwarders have been able to capture less than one-tenth of the available merchandise tonnage, while the trucks have taken more than one-half of the total. Meanwhile, the forwarders have not relieved the railroads "from maintaining at least a skeleton merchandise service"; and "the spreading of the merchandise traffic over the l. c. l. rail, forwarder and truck service has served materially to increase the unit cost by all forms of transportation." Expressing doubt that the forwarder method "alone" could be depended upon to gather a fair share of the merchandise traffic for the railroads, Mr. Orr proceeded to bring in his aforementioned suggestion that "the more logical approach would be, first, to see what a revised rate structure would do to eliminate present uneconomic facilities and service, thus forcing traffic into more economically sound channels." "Thereafter," he went on, "when it is known how much and what kind of traffic is destined to move by each form of transportation, it can be determined the extent the forwarder method of dealing with merchandise traffic promises further economies."

There is no doubt in Mr. Orr's mind that the forwarders have been instrumental in developing better service, but he thinks they along with the trucks may well have been instrumental "in causing poorer service to be furnished on much of the traffic remaining on the railroads which they will not handle." Coming to his discussion of what he regards as desirable rail rate adjustments, the witness said that his proposals, "drastic as they may seem," would "cost the railroads only seven per cent of their merchandise revenues." He would cut l. c. l. rates of first class and higher for distances within 100 miles by 25 per cent; for distances between 100 and 300 miles, 20 per cent; and for distances beyond 300 miles, 15 per cent. Second class rates would be cut, respectively, 15 per cent, 10 per cent and five per cent; while third class rates in turn would come down 10 per cent, five per cent and five per cent. Mr. Orr would make no change in rates lower than third class. He calculates that the effect of the foregoing reductions as applied to present merchandise traffic would be a revenue drop of \$17,970,000 or 7.1 per cent. He would, however, extend similar reductions to carload traffic—because "much of the ability of the trucks to operate beyond their sound economic radius is due to their ability to gather return loadings of carload traffic upon a return-load, added-cost basis." Thus "it naturally follows that it is necessary also to take the undue inflation out of these carload rates." Furthermore, Mr. Orr would establish quantity rates, both carload and l. c. l.

"Such a reduction," he insisted, "would not destroy the economic usefulness of the forwarder and the truck in their sound economic spheres. Such adjustment would, however, encourage these competitors in order to make a profit to restrict their operations to those where they can show genuine economies." Mr. Orr went on to explain how the percentage increases in class rates in the past have "more than doubled the spread between carload and l. c. l. rates and more than doubled the spread between high and low l. c. l. rates." If these spreads had been kept narrow, he continued, the forwarder and the truck would not have had the opportunities they have enjoyed. In the same connection Mr. Orr has found "considerable evidence" that the 1938 increase of 10 per cent in rail rates, "and the concerted action since then to bring truck rates up to the railroad level, have operated to the forwarder and trucks' advantage." He supported this statement with an exhibit setting forth the operating results of line-haul motor carriers penetrating Official territory reporting annual gross revenues of \$1,000,000. These carriers were shown to have reported an operating deficit of \$900,000 in 1937; in 1938, "when the rates were increased 10 per cent in March," they reported a profit of \$1,900,000; and in 1939, as Mr. Orr put it, "they earned approximately \$5,400,000 and eight per cent of their gross revenues were converted into net profit . . . when we consider Seaboard as part of Keeshin not a single one used any red ink in 1939."

Taking motor carriers as a whole, Mr. Orr estimated that a 10 per cent reduction in their rates would produce a five per cent deficit; and he thinks that "a reduction in rates on carrier competitive traffic could be so designed (as indicated in the foregoing) that it would cost the forwarder and the truck more than twice as much as it would the railroad because the greater reduction would be in the traffic they handle." Mr. Orr wanted it understood that he was not advocating "misuse of railroad rate-making power"; what he has in mind "would only take some of the undue inflation out of the railroad rate structure." He predicted that if that is done "the problem would very largely disappear, because it will eliminate the unsound facilities and stimulate effort to produce still better service and lower costs." For carrying out his plan, Mr. Orr sees no need for additional legislation—the I. C. C. has its maximum and minimum rate powers, and the railroads could do much alone "if they will only compose their differences."

### Would Restrict Joint-Rate Arrangements

If the sub-committee considers it advisable to enact a law regulating the forwarders, Mr. Orr thinks the Eastman bill, with amendments suggested by the N. I. T. League "is perhaps a fair basis to begin with." However, if forwarders are to be permitted to make joint rates with other carriers, the witness suggested that such rates should be confined to situations where the truck is "auxiliary and supplementary to forwarder service"; if wide open permission is given on this joint rate matter "a large powerful railroad-controlled forwarder can invade the territory of a competing railroad or truck by the subterfuge of joint rates with trucks." Also, Mr. Orr thinks the I. C. C. should have power to revoke forwarder certificates upon proof that there has been misuse of the traffic-routing power.

Here followed the group of traffic managers and other representatives of shippers who pleaded for legislation which would insure the continuance of forwarder services, including the joint arrangements with the motor carriers, on the present basis. Some of them brought in

the "national defense" angle in support of their positions. The group included: Harry A. Hatch, traffic manager of the Wright Aeronautical Corporation; Paul C. Kelly, vice-president of the American Retail Federation, representing, Mr. Kelly said, 250,000 retail establishments of "all types and sizes"; E. D. Hussey, traffic manager of the Jordan-Marsh Company, Boston, Mass., who appeared for the National Retail Dry Goods Association; William G. Wilson, traffic manager of Vultee Aircraft Corporation and Aviation Manufacturing Corporation, who represented also the Aircraft Traffic Association composed of eight Pacific Coast companies; I. W. Whitaker, traffic manager of the Aluminum Goods Manufacturing Company, Manitowoc, Wis.; L. E. Luth, representing the Winona, Minn.-Lacrosse, Wis., Joint Traffic Bureau; G. H. Osterman, director of traffic, Timken-Detroit Axle Company; and Will C. Pike, traffic manager of the Perfect Circle Company of Hagerstown, Md.

### Breed Criticizes Eastman Report

The first witness at the June 18 session of the subcommittee was C. B. Breed, professor of railway and highway transportation at Massachusetts Institute of Technology, who briefly criticized the recently-issued Eastman report on transportation costs and subsidies. Mr. Breed, who was a co-author with Clifford Older, consulting engineer of Wilmette, Ill., and W. S. Downs, professor of railroad and highway engineering at West Virginia University, of a study of highway costs which was submitted to the Association of American Railroads at the beginning of 1939, told the subcommittee that the Eastman report "makes some bad mistakes in allocating to each type of vehicle the proportion of the total cost of highway construction and maintenance that each should pay." He also derided the finding of the Eastman report that the largest truck does no more proportionate damage to a surfaced road than does the passenger car. "Anyone knows better than this," he concluded.

George M. Harrison, president of the Brotherhood of Railway Clerks, made a short presentation in which he stated his position on the subject of forwarders and criticized the railroads for their failure to "realistically" face the problems involved. After pointing out that the number of freight handlers in the past 20 years had decreased by some 50 per cent, Mr. Harrison told the committee that he had no real preference for any particular type of service to handle l. c. l. freight.

### Union Pacific is Praised

He did feel, however, that if the railroads would move l. c. l. traffic as expeditiously as the forwarders do, they could retain all the l. c. l. traffic themselves. At this point he observed that some railroads have forced l. c. l. traffic to move via forwarders because they give the forwarders superior service to that which they accord regular l. c. l. shippers. He then told the subcommittee that, in his judgment, the railroads could regain the l. c. l. traffic now handled by forwarders if they would adjust their plant to fit the shippers' needs and take a real interest in the problem. If co-ordination of rail and truck service is necessary, it should be done, he declared. He also praised the Union Pacific for its aggressiveness in recapturing l. c. l. business by finding out what shippers wanted and developing a new type of car which could be hauled in passenger trains, thus giving points as far as 500 miles away overnight service.

Turning to the subject of forwarders, Mr. Harrison

thought they had a place which should be preserved, even if they do have to be regulated. "They are here," he said, "and should be given the right to live." The idea of pooling l. c. l. and express shipments did not appeal to the president of the clerks, who felt that such a scheme would be "the most inefficient set-up that one could possibly have." He went on to say that it would be necessary to have a duplicate service despite the fact that there would be a pooling agency, thus causing the outlay of more capital for new facilities.

### Pooling Burdensome to Employees

Also, pooling would be unduly burdensome to those employees who would be forced to give up their jobs or be transferred to a different location. He urged the subcommittee to oppose any idea of pooling. Rather, he felt the problem of l. c. l. and forwarders could be solved if the railroads gave better service and had a "sensible" rate structure. In his opinion, hauls under 150 miles on the railroads should be discouraged as the motor carrier can do this business more economically. He further felt that the shifting of this short-haul business could be accomplished by the commission authorizing the trucks to publish lower rates than the railroads on this type of business.

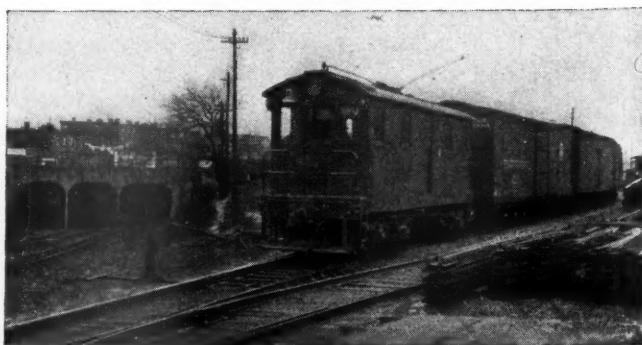
G. G. Early, chief traffic officer of the Wabash, defended the forwarders, saying that their traffic was the most profitable that his railroad carried. He felt that the forwarders reduce solicitation costs to a minimum by concentrating shipments, arrest truck competition, and have the "best and most advantageous method yet devised for handling l. c. l. shipments." He closed his statement by adding that it was endorsed by the Lehigh Valley and the Delaware, Lackawanna & Western.

During his testimony Senator Reed remarked that he was tired of the carriers violating the law by discrimination and he added, "that includes the Wabash." Mr. Early denied that his road had ever intentionally violated the law by discriminating against shippers.

F. Carpi, general freight agent for the Pennsylvania, made a short statement in rebuttal in which he mentioned that the railroads are now considering using stamps instead of way bills in the handling of l. c. l. freight.

At the close of the hearing Senator Reed announced that at some later date Chairman Eastman of the Interstate Commerce Commission, might be heard, but that he could not say just when that would be. He also indicated that possibly no more public hearings would be held but that Mr. Eastman would have his statement incorporated in the record.

\* \* \*



A Local Freight Run On the South Brooklyn Railway, Subsidiary of the Brooklyn-Manhattan Transit Corporation, A Large Transit System Operating in New York City. Rapid Transit Tracks Shown in the Background



# Harriman Safety Medals Awarded

Unusually good safety performance made  
by the railroads in 1939

**T**HE twentieth award of the E. H. Harriman Memorial Medals to railroads having the best safety records for the year 1939 in three groups of the Class I Railroads, was made at a luncheon on June 20 given by the American Museum of Safety at the Yale Club, New York City. The award was founded in 1913 by the late Mrs. Mary W. Harriman in memory of her husband, Edward H. Harriman, "to stimulate a direct effort for the conservation of human life."

Col. John Stilwell, president of the American Museum of Safety, presided at the luncheon. The presentation of the medals was conducted by George B. Cortelyou, chairman of the award committee. Other members of the award committee are F. D. Underwood, former president of the Erie; B. F. Fairless, President, U. S. Steel Corporation; Samuel O. Dunn, editor of *Railway Age*; Frank McManamy, former Interstate Commerce Commissioner; and Lew R. Palmer, (secretary), conservation engineer of the Equitable Life Assurance Society.

## The Awards

The South Central District of the Union Pacific was winner of the gold medal in Group A (operating ten million or more locomotive miles a year), with thirty-eight railroads competing. The medal and award certificate was accepted by W. M. Jeffers, president of the Union Pacific, and W. H. Guild, general manager of the South Central District. This is the eighth gold medal to be won by the Union Pacific System or one of its component roads.

The Chicago, St. Paul, Minneapolis & Omaha was winner of the silver medal in Group B (one to ten million locomotive miles a year), with fifty-five railroads competing. Carl R. Gray, Jr., executive vice-president, accepted the medal and award certificate.

The Charleston & Western Carolina was the winner of the bronze medal in Group C (less than one million locomotive miles a year), with forty competing railroads. A special safety award was made to the New York Central System for having operated more than sixteen consecutive years without a passenger fatality in a train accident, with a total of 50,463,685,000 passenger miles.

Col. Stilwell in his introductory remarks said that "the next twelve months will be a crucial year in the history of our country. One would just be fooling himself if he tried to laugh off the war clouds that right now threaten the security of our country, our people—yes, our whole philosophy of government and our time-honored doctrine of human freedom. . . . American industry has already received its S. O. S. The railroads will be called upon to play a big part in this huge program of national defense. Even more important will be your responsibilities if any country tries to invade our shores, for then your task will be to facilitate movements of men and equipment in protecting several thousands of miles of coast line—fronting two oceans—three thousand miles apart. It all adds up to *more and more* trains; *more and more* speed; and still greater safety. You must fight accidents as never before—and

you may have to fight the insidious undercover activities of the Fifth Column, the saboteur, always lurking to deliver the 'stab in the back' to industry when war clouds threaten."

## Remarkable Safety Achievements

Samuel O. Dunn, chairman of the Simmons-Boardman Publishing Corporation and editor of *Railway Age*, pointed out that the increase that has been made in the safety of railway operation in the United States is one of the most remarkable industrial achievements of modern times. It is the result of more than thirty years of constant effort.

"The railways," said Mr. Dunn, "have no responsibility for trespassers, who always have contributed about one-half of the persons reported as killed on their property. They have only a small and declining responsibility for those killed and injured at crossings with highways—the only classes of accidents on their property that have increased, and the increase in which has been due entirely to the great increase in highway traffic. Their real responsibility is to their passengers and employees.

"First, then, as to passengers. In the five years 1905-1909, inclusive, the number of passengers killed per one billion passengers carried one mile was 15.85. In the five years ending with 1914 this figure was reduced to 8.8; in the five years ending with 1919 to 7.5; in the five years ending with 1924 to 4.7; in the five years ending with 1929 to 3.6; in the five years ending with 1934 to 2.25; and in the five years ending with 1939 to 2.05. The reduction from 15.85 in the five years ending with 1909 to 2.05 in the five years ending with 1939, was a reduction in proportion to the amount of passenger traffic handled, of 87 per cent.

"During the last five years all passengers were carried almost 500 million miles for each one killed. Therefore, the average passenger could now count upon traveling 60 miles an hour for about 930 years before meeting with a fatal accident. No other means of transportation can show a safety record approaching this. Probably there is now no other place on earth where it is as safe to be as on an American railway passenger train.

"Next as to railway employees. In the five years 1905-1909, inclusive, out of each 10,000 employees there were 23.7 killed. In the five years ending with 1914 this figure was reduced to 20; in the five years ending with 1919 to 15.5; in the five years ending with 1924 to 10; in the five years ending with 1929 to 8.6; in the five years ending with 1934 to 5.6; and in the five years ending with 1939 it was 5.8. Within thirty years the danger of a fatal accident in railway employment has been reduced 75.5 per cent.

"How has this reduction of accidents—this great increase of railway safety—been achieved? By (1) improvement of railway operating rules and methods, by (2) improvement of railway plants, but principally by

(Continued on page 1126)

# Motor Transport Section



Modern Equipment Aids in Making Prompt Deliveries

## Co-Ordination Speeds Deliveries

**T**IME savings of as much as 72 hr. in some cases are made possible by co-ordinated rail-highway service along the lines of the Missouri Pacific in Louisiana. These operations require the use of seven tractor-semi-trailers, the tractors having two tons capacity, while the closed van-type trailers are 22 ft. long, 6 ft. 6 in. high and 7 ft. 6 in. wide. As shown on the accompanying map, the cities of Baton Rouge, Kinder and De Quincy serve as concentration and distribution points for the surrounding territory.

### How It's Done

Freight from Beaumont and Houston for local stations in Louisiana is handled to De Quincy in through merchandise cars by a through freight train leaving Houston at 9:00 p. m. and Beaumont at 2:45 a. m., arriving at De Quincy at 4:45 a. m. All freight from origins west of De Quincy is handled to that point by train service for distribution beyond by truck.

Freight from Chicago, Kansas City, St. Louis, Memphis, Little Rock, Monroe, Lake Charles, Alexandria, and other points north and south of Kinder, is handled in through merchandise cars to Kinder, La. These through merchandise cars move into Kinder on through freight trains. Early third morning arrival from Chicago and Kansas City, second morning from St. Louis, Memphis, Little Rock, and Monroe, and early first morning from Lake Charles and Alexandria are maintained. The merchandise in these cars is distributed from Kinder to all points by truck.

Missouri Pacific gives rail-highway service on its Louisiana lines

Less-than-carload freight from New Orleans and Eastern distributing points is handled by train service to Baton Rouge with early first morning arrival from New Orleans and is distributed by truck. Freight arriving at De Quincy and destined to Baton Rouge and intermediate points leaves De Quincy by truck at 6:30 a. m., with arrival in Baton Rouge at 11:30 a. m. All freight for points on the New Iberia & Northern (a M. P. subsidiary) is handled out of De Quincy by this truck.

### Two Trucks Operated Daily

Two trucks operate from Kinder daily. One leaves at 6:30 a. m. operating parallel to the main line to Baton Rouge, and arriving there at 10:20 a. m., while serving all intermediate points. The second truck performs a turn-around operation between Kinder and Opelousas, leaving Kinder at 7 a. m., with arrival in Opelousas at 9 a. m. This truck leaves Opelousas at 9:30 a. m., returning to Kinder at 10:30 a. m., and handles all freight out of Kinder destined to points on the N. I. & N. In



addition to these two trucks out of Kinder, the truck operating between De Quincy and Baton Rouge handles any overflow freight at Kinder for points on the main line between Kinder and Baton Rouge.

### Baton Rouge Operations

Three regular trucks are stationed at Baton Rouge for the handling of merchandise freight originating at New Orleans and Eastern distributing points. One is a local truck serving all stations between Baton Rouge and Kinder, which leaves Baton Rouge at 6:30 in the morning and arrives at Kinder at 12:01 p. m. The second truck leaves Baton Rouge at 7:15 a. m., and operates to De Quincy, arriving at 1:45 p. m. As a general rule, this latter truck serves only the towns of Opelousas and Eunice between Baton Rouge and Kinder. However, at Kinder it picks up all the freight moving westbound from that point and operates as a local truck between Kinder and De Quincy, serving all intermediate stations. The third truck from Baton Rouge leaves at 6:30 a. m., and operates along the main line to Port Barre, La., arriving there at 8:15 a. m. From Port Barre this truck then operates south along the N. I. & N. to New Iberia, arriving there at 10:00 a. m. Returning it leaves New Iberia at 10:30 a. m. for Port Barre via Loreauville, and from Port Barre it operates into Baton Rouge, arriving there at 1:30 p. m. This latter truck handles all N. I. & N. freight out of Baton Rouge.

Another truck is stationed at New Iberia and leaves there at 7 a. m., with all outbound freight from that point. It operates into Opelousas, arriving there at 9 a. m. At Opelousas the outbound freight is delivered to the trucks previously described which operate through Opelousas along the main line. Further, at Opelousas this truck picks up all freight for points on the N. I. & N. and departs at 9:15 a. m., with arrival in New Iberia at 11:50 a. m. From New Iberia this truck then operates to Franklin through Jefferson Island and Jeanerette, arriving at Franklin at 12:05 p. m., and leaving at 12:20 p. m., for the return to New Iberia. When there is tonnage available, this truck also operates south from Franklin on to Shadyside, La., the southern terminal of the N. I. & N.

By the inauguration of this truck service along the main line and the N. I. & N. the Missouri Pacific is able to effect large savings in time over the previous all-rail service. As an example, in connection with shipments from New Orleans this service effects savings of from 9 hr. at Anchorage to approximately 27 hr. at Jefferson Island, Crowley and De Quincy, with corresponding savings to other points. The minimum saving in con-

nection with traffic moving from Shreveport to Kinder and Elton is 24 hr., while the maximum saving is 44 hr. to Franklin. From Beaumont and Houston the savings in time run from a few hours at some points to as much as 44 hr. to Franklin.

Corresponding savings are likewise afforded from Baton Rouge, Lakes Charles, Alexandria, St. Louis, Memphis and other points.

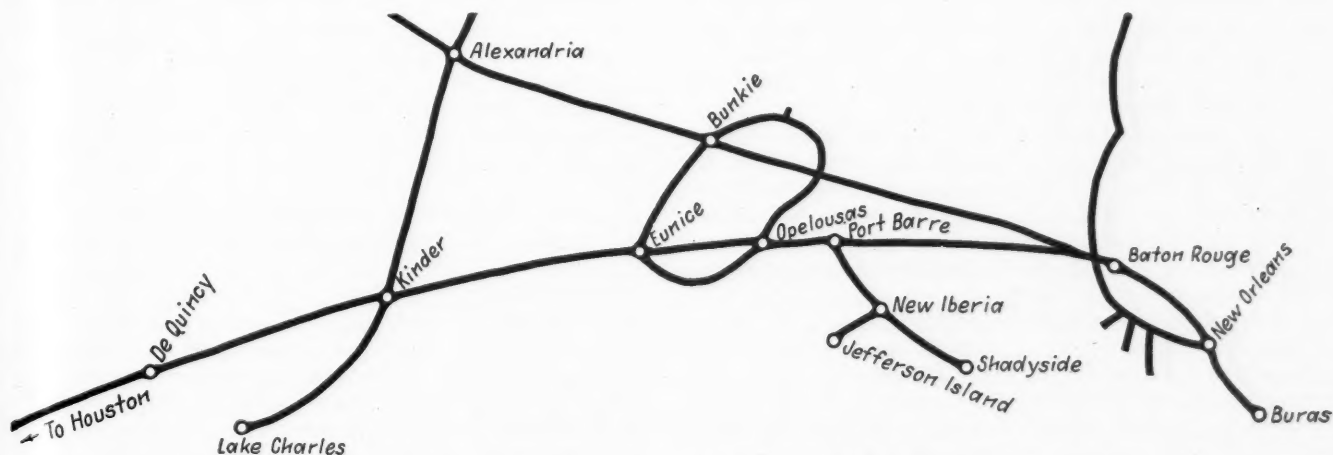
## Co-Ordinated Service Extended on Mo. P.

**T**HE Missouri Pacific has extended its rail-highway co-ordinated service into Southern Illinois recently, by the establishment of three new truck routes radiating out of Gorham, Ill., to give overnight service to various points in the Southern Illinois coal fields, from St. Louis. A similar service is given in the reverse direction by trucks leaving Cairo, Benton, and Marion, which pick up merchandise at intermediate points and consolidate it into a St. Louis car at Gorham.

## Air Conditioning for Santa Fe Buses

**M**OVING toward complete air conditioning of its entire fleet of buses, Santa Fe Trailways, trans-continental bus line, on May 31 had another new fleet of buses ready with year-round air conditioning. Units of the new fleet, built prior to last year, marked the advent of air conditioning in highway travel. Likewise the remainder, constructed this year, are built especially for air conditioning. The units are built in the framework and the entire coach is completely insulated and soundproof, thus actually built-for-the-purpose. This large fleet of streamlined "luxury-liners" will operate along Santa Fe Trailways routes serving 13 states.

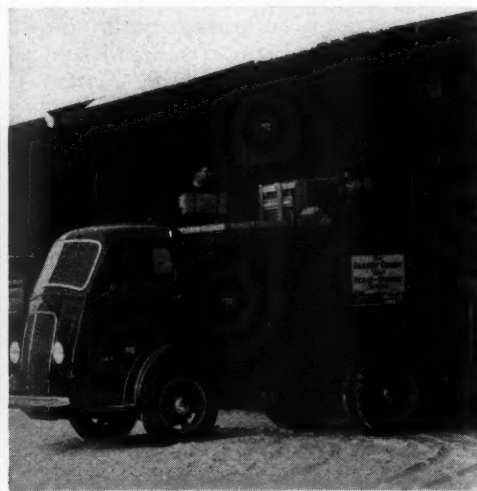
The new buses are rated to cut exterior temperatures of 100 deg. outside to 80 deg. inside, with a comparable reduction in relative humidity. A complete change of fresh, clean air will be diffused throughout the buses every three minutes. The buses were built to Santa Fe Trailways specifications by the American Car & Foundry Company and air-conditioned by the Carrier Corporation.



The Southern Louisiana Lines of the Missouri Pacific Are Served by Rail-Highway Co-ordination

# Presidents Discuss Motor Transport in Reports

Statements reveal vigorous growth in co-ordination activities in 1939



**T**HE annual reports for 1939 of many American railroads included commentaries on the use of motor trucks and buses for co-ordinated service and the operating records of motor carrier affiliates. The following are highlight excerpts from statements to stockholders and the statistical tables:

President E. W. Scheer of the Reading told stockholders of the road that operating revenues of the Reading Transportation Company increased 7 per cent in 1939, as compared to 1938, resulting in a "small net income." No changes were made in route-mileage. During the year, 1,394,770 bus-miles were operated and 896,204 passengers carried. Truck-miles operated during the year totaled 949,680 and 66,143 tons of freight were handled. Of the latter, 18,385 tons consisted of railroad freight transported in station-to-station trucks in train substitution service, while 47,758 tons consisted of miscellaneous freight in general service, part of which was handled in truck-railroad-truck service, producing 773 carloads and a revenue of \$40,384 to the railroad company proper, an increase of 25 per cent as compared with 1938. During the year, the company took delivery on 20 new buses to replace 20 older units. Effective November 1, 1939, the Transportation Company initiated performance of its own pick-up-and-delivery service in the Philadelphia, Pa., area in lieu of the previous practice of contracting another agency for that purpose. This extension of service was affected without an increase in the number of truck units operated.

The report of the New York Central indicated that at the close of the year it held 90,000 shares of no-par common stock of Central Greyhound Lines, Inc., at a ledger value of \$132,625. The report of J. L. Hees, trustee of the Fonda, Johnstown & Gloversville, showed that passenger revenues on its bus lines (including urban and intercity routes which perform almost all of the road's passenger service) was \$256,132 in 1939, an increase of \$13,598 over combined bus and electric car operations in the previous year (electric railroad service was abandoned during 1938). On the 10 bus routes operated a fleet of 36 vehicles ran 1,083,250 mi. during the year and carried 2,491,586 revenue passengers.

The statistical table of securities owned by the Penn-

sylvania as of December 31, 1939, indicated that the company continued to hold 17,282 shares of common and 1,500 shares of preferred stock of Pennsylvania Truck Lines, Inc., from which preferred stock the railroad received an income of \$9,000 during the year, an amount identical with that received in 1938. C. L. Bradley, chairman, executive committee, New York, Susquehanna & Western, pointed out that the railroad inaugurated a connecting motor coach service between North Bergen, N. J., and the mid-town section of Manhattan, New York city, effective August 1, 1939, by agreement with a utility company already operating in the field. (This service was described in the *Railway Age* of August 5, 1939, page 217.)

## New England Operations are Extensive

President W. F. Cram of the Bangor & Aroostook, reported that highway transportation in substitution for and in co-operation with railroad passenger-train services, was extended during the year and that bus operations by the railroad's subsidiary, the Bangor & Aroostook Transportation Company, "resulted in substantial savings to the railroad company."

President E. S. French of the Maine Central, reported that total operating revenues of the Maine Central Transportation Company for 1939 were \$441,037, an increase of \$54,672, or 14 per cent over 1938. The number of passengers carried showed an increase of 16 per cent, due in part to the inclusion for a full year of the additional lines inaugurated in June, 1938, (see the *Railway Age* for July 22, 1939, page 143). In addition, general patronage increased substantially. By reason of its earnings, the transportation company contributed \$38,850 to the income of the parent railroad compared with \$4,746 for 1938. As president also of the Boston & Maine, Mr. French called attention of stockholders of that road to the fact that experimentation was begun with co-ordinated railway-highway equipment for bulk milk service during the latter part of 1939. Said he: "Considerable interest in the service afforded by such equipment has resulted and it is hoped within a short time that new accounts will be secured through its use."



President H. S. Palmer of the New York, New Haven & Hartford, reported that operations of the New England Transportation Company for 1939 resulted in a net income of \$181,744, an improvement of \$123,209 over 1938. This was after depreciation charges of \$145,660 and note interest of \$79,110 not paid to or included in the income account of the New Haven and included a dividend of \$120,000 received from New England Greyhound Lines in connection with the merger of certain bus operations of the two companies mentioned in last year's annual report. Separate income accounts appearing for the several highway operating subsidiaries of the New Haven show that the Sound View Transportation Company, wholly-owned subsidiary of the New York, Westchester & Boston, showed a net deficit of \$2,356, compared with a net income of \$120 in 1938. Operating expenses were 105 per cent of total operating revenues, an increase of 6 per cent compared with 1938.

County Transportation Company, another wholly-owned bus subsidiary, reported a net income of \$8,114, a decrease of \$3,180 compared with a net income of \$11,294 for 1938. A separate income account for the New England Transportation Company showed, in addition to the net income reported above, that it drew together with its affiliates, a total operating revenue, including passenger, freight and other revenue of \$2,738,918 and total operating expenses, including depreciation and retirements, of \$2,563,548. Operating revenues decreased \$26,746 as compared with the previous year while operating expenses decreased \$53,404. The New Haven continued to hold the entire capital stock of the company having a par and book value of \$1,500,000 and notes in the amount of \$1,318,500.

#### Motor Carrier Progress in the South and Southwest

The report of the Central of Georgia showed that the road continued to hold the entire \$5,000 common stock issue of its subsidiary, Central of Georgia Motor Transport Company. The investment table for the Richmond, Fredericksburg & Potomac showed holdings in Richmond-Greyhound Lines of \$98,000 par value and \$105,000 book value in stock, and total advances of \$156,800.

President I. B. Tigrett of the Gulf, Mobile & Northern reminded stockholders that the company in 1937 adopted the policy of engaging in highway transportation "in an effort to protect its traffic." He declared that the service of the Gulf Transport Company, affiliated motor carrier of the railroad, has been extended and developed during 1938 and 1939 and "is now an important adjunct of the railroad transportation." He pointed out that while in the main operations are confined to territory adjacent to the railroad, "it helps to hold traffic to the rails by providing such highway transportation as is really in the interest of the public." The investment list of the railroad indicated that it continued to hold the entire capital stock issue of the Gulf Transport Company having a par value of \$9,700. The investment list of the Louisville & Nashville showed that the road continued to hold stock of the Gulf Transit Company (not to be confused with the Gulf Transport Company above) having a par value of \$8,230 and a book value of \$82,300.

The report of J. L. Beven, president, and L. A. Downs, chairman of the board, of the Illinois Central, pointed out that the Interstate Commerce Commission, on March 27, 1939, authorized the railroad to establish motor vehicle service as a substitute for less-than-carload railway service in southern Illinois. This operation was begun June 27, 1939, supplementing railroad service between Carbondale on the one hand and Centralia, Cairo, Benton, Eldorado, Gale, and East St. Louis on the other,

serving all intermediate points at which I. C. railroad stations are located. The list of securities owned by the road indicated that it continued to hold the entire 50 shares of outstanding stock of the Central Transportation Company of Illinois and all of the 200 shares of the Mississippi Valley Transportation Company, as of the close of the year.

President G. B. Elliott of the Atlantic Coast Line told stockholders that the company filed application with the Interstate Commerce Commission on February 16, 1940, for permission to establish a co-ordinated truck service between certain stations on its lines in Virginia and North Carolina as part of a program to improve the handling of l. c. l. traffic. If permission is granted, he declared, "package freight will be handled from distant points on fast freight trains to points where such shipments will be concentrated and thereafter immediately trucked to nearby stations, thus enabling faster operation of freight trains and minimizing the use of freight equipment. In the reverse direction, traffic will be gathered by the truck service for transportation to the concentration points and handled beyond by rail in expedited freight service."

The annual report of the Seaboard Air Line contained a paragraph with respect to the results of pickup-and-delivery service wherein it is stated that while it is not possible to accurately estimate the amount of traffic that the road secured as a result of this service, "... the continued operation of this service has enabled competition with other forms of transportation and is a contributing factor to the increase in the less-carload merchandise traffic during 1939."

President Daniel Upthegrove of the St. Louis Southwestern reported that the Southwestern Transportation Company, a wholly-owned highway subsidiary, operated 106 motor trucks (including 46 tractor-trucks) and 46 trailers as of the close of the year and hauled 73,726 tons of merchandise during 1939, as compared with 69,826 tons during the previous year. As of the close of 1938, the company's fleet consisted of 95 motor trucks (including 41 tractor-trucks) and 43 trailers. A separate income account appearing for the Southwestern Transportation Company showed operating revenues during the year of \$793,958, as compared with \$713,163 in 1938; operating expenses of \$726,448, as compared with \$635,235 in 1938; resulting in a net revenue of \$67,510, as compared with \$77,928 in 1938. The company showed a net income for 1939 of \$35,722, as compared with \$61,929 for 1938.

G. A. Thompson, trustee for the Missouri Pacific, reported that during the year the Missouri Pacific Transportation Company increased total operating mileage from 4,178 mi. at the beginning of the year to 4,198 mi. at the close, a net increase of 20 mi. Included in the increase were routes between Lebanon, Mo., and Springfield, 55 mi.; Crossett, Ark., and Bastrap, La., 27 mi.; Angleton, Tex., and Freeport, 19 mi., which were temporarily discontinued in 1938 and re-established in 1939. In addition, a new route between Landrum, Tex., and Edinburg, 46 mi., was inaugurated December 12, 1939. Balancing this, a 124-mi. route between Paola, Kan., and Herington, was temporarily discontinued July 5. The number of motor coaches owned increased from 128 at the beginning of the year to 140 at the close; in the interim, 16 new coaches were purchased and four retired from service. The Transportation Company also purchased one new freight truck during the year, making a total of six owned as of December 31.

Concerning the Missouri Pacific Freight Transport Company (organization of which was described in the annual report article appearing in the *Railway Age* of July 22, 1939, page 144), it was pointed out that during

the year certificates of convenience and necessity were granted to this company by the Railroad Commission of Texas and trucking operations inaugurated over various routes as follows: March 1, Waco and Mart; March 1, between various points in the Rio Grande Valley; May 1, Waco and Marlin, via Mart; and June 15, between Houston and Freeport, via Angleton and Brazoria. The securities table of the railroad showed holdings of 250 shares of stock of the M. P. Freight Transportation Company having a par value of \$25,000 and 1,000 shares of the M. P. Transportation Company having a par value of \$100,000. The road also held notes as of December 31 for a total of \$10,000 for the Freight Transportation Company and \$187,941 for the Transportation Company. The company had also made advances to the Transportation Company totaling \$5,585,577 as of the close of the year. Assets of the Transportation Company include a note for \$2,877,971 receivable from the Missouri Improvement Company, a wholly-owned subsidiary of the parent railroad.

The report of the St. Louis-San Francisco, submitted by J. M. Kurn and J. G. Lonsdale, trustees, stated that operations of the Frisco Transportation Company, organized in 1937, were extended during 1939 and that "these operations provide more expeditious and economical handling of passenger and merchandise traffic and have enabled the discontinuance of more costly local mixed-train railroad service."

The investment account of the Kansas City Southern showed that the railroad continued to hold the entire capital stock issue of the Kansas City Southern Transport Company, Inc., having a total face amount of \$5,000 and had made advances or held notes totaling \$38,000 as of the close of the year. A separate income account for the Transport Company indicated operating revenues during the year of \$65,324, as compared with \$6,870 in 1938; and operating expenses of \$61,357, as compared with \$6,174 in 1938; leaving a net revenue of \$3,967, as compared with \$695.

#### Highway Use in West and North

A list of investments in affiliated companies by the Northern Pacific showed that the railroad continued to own stock in the Northern Pacific Transport Company to the extent of \$1,000 book value. As of December 31 the road had advanced \$341,500 to the Transport company and had received \$33,525 in dividends or interest from its affiliate.

E. J. Engel, president of the Atchison, Topeka & Santa Fe, stated in his report that over 99.8 per cent of the stock of the Southern Kansas Stage Lines Company has been acquired by the General Improvement Company, Santa Fe affiliate, and transferred to the direct possession of the railroads with the approval of the I. C. C. The General Improvement Company first made purchase of the Stage Lines' stock in 1935. Mr. Engel pointed out that operation of Southern Kansas and all subsidiary lines, except the Santa Fe Trails of Illinois, have been consolidated under the name of The Santa Fe Trail Transportation Company. Referring to trucking operations, he commented that co-ordinated rail and truck service has been made effective generally in Kansas at points common between the railroad and the S. F. T. Transportation Company, "effecting a substantial improvement in freight transportation service." According to the annual report, investments in highway affiliates charged to capital account included \$788,459 for the S. F. T. Transportation Company and \$279,225 for the S. F. Transportation Company (California).

Previous investments in the S. F. Transportation

Company (Delaware) were dropped from the capital account. The railroad owned at the end of the year 89,835 of a total of 90,000 shares outstanding of the capital stock of the S. F. T. Transportation Company, involving an investment of \$1,179,695; the entire outstanding capital stock of the S. F. Transportation Company (California) having a book value of \$11,000 and the S. F. Transportation Company (Delaware) of \$1,000. It was noted further that a total of \$3,048,455 had been advanced as of December 31 to the S. F. T. Transportation Company, \$1,123,851 to the S. F. Transportation Company (California) and \$16,252 to the S. F. Transportation Company (Delaware). According to the income accounts for affiliated companies, the S. F. T. Transportation System earned a gross income of \$4,837,518 in 1939 and incurred net operating expenses of \$4,408,791 and a net deficit of \$242,782. The S. F. Transportation Company (California) had a gross income of \$707,295; expenses of \$828,085 and a net deficit of \$200,817.

W. A. Harriman, chairman of the board, Union Pacific, told stockholders that Interstate Transit Lines and Union Pacific Stages, Inc., took delivery of 14 thirty-seven passenger streamlined motor coaches during the year, and ordered 10 thirty-seven passenger and 5 thirty-three passenger coaches of the latest type for delivery in 1940. Interstate Transit Lines and controlled companies—70.9 per cent owned by the railroad, operating buses in U. P. and C. & N. W. territory between Chicago and Los Angeles, Cal.—earned a net revenue of \$1,026,467 during the year, as compared with \$1,021,878 in 1938. It had a surplus at the close of the year of \$340,727, as compared with \$332,273 the previous year. Union Pacific Stages—wholly owned affiliate which operates buses in U. P. territory between Salt Lake City, Utah, and Portland, Ore.—earned a net revenue of \$372,489 during 1939, as compared with \$319,625 during 1938, and had a surplus of \$7,782, as of December 31, an amount identical with that of one year previously.

The Union Pacific received and credited to its income account dividends of \$345,885 from Interstate Transit Lines, a decrease of \$22,436 under dividends received in 1938.

According to the list of affiliated companies of the road, it continued to hold directly as of December 31, 1939, 186,965 out of a total of 263,829 shares of capital stock of Interstate Transit Lines; the entire 30 outstanding shares of Union Pacific Stage and the entire 6,500 outstanding shares of Union Pacific Stages, Inc.

The list of financial transactions with affiliated companies of the Chicago, Rock Island & Pacific shows a total loan to the Rock Island Motor Transit Company of \$3,445 as of December 31, 1939. The table of securities owned reveals that the railroad held the entire outstanding stock issue of the Motor Transit Company having a face value of \$10,000, and had made advances to the company of \$233,761 as of the close of the year.

President Ralph Budd of the Chicago, Burlington & Quincy reported that the Burlington Transportation Company, wholly-owned affiliate of the road, sustained a net operating loss of \$79,827 in bus operations during 1939, compared with a net loss in 1938 of \$257,837. Operating revenues in 1939 increased \$388,659, or 29 per cent over 1938, while expenses increased \$238,479, or 14 per cent. Mr. Budd pointed out that bus operations were carried on at a substantial profit subsequent to June 15, 1939, when 21 "cruiser"-type, Diesel-powered, air-conditioned coaches were placed in Chicago-California service and 3 new air-conditioned buses in



Omaha (Nebr.)-Kansas City (Mo.)-service. He added that better station facilities also aided the company in obtaining a greater volume of business. Fourteen additional units of equipment—comprising two 37-passenger, seven 25-passenger and five 13-passenger buses—were placed in service late in the year.

The Truck division earned a net profit of \$70,392 during the year, compared with a net profit in 1938 of \$26,089. Operating revenues in 1939 increased \$181,410 or 28 per cent over 1938, while expenses increased \$137,547 or 22 per cent. The company acquired intra-state rights between Grant, Iowa, and Council Bluffs from the William West Motor Express, and purchased 34 new units of equipment and placed them in service during the year.

Mileage statistics for the Burlington Transportation Company during the year recorded 11,500,000 bus-miles in 1939 (an increase of 14.6 per cent as compared with the previous year), operating over 6,693 route-miles; and 4,040,000 truck-miles (an increase of 18.5 per cent over 1938), operating over 2,949 route-miles.

### Southern Pacific Extends Co-ordination

The annual report of the Southern Pacific, submitted by A. D. McDonald, president, disclosed in detail the results of operation of a number of directly owned and affiliated motor transport organizations and listed the widespread financial interests of the company in such operations. Wholly-owned trucking and transport companies operating both highway truck and city drayage services and performing store-door pick-up and delivery at various points along the Southern Pacific railway lines owned 180 motor trucks, 135 trailers, 77 commercial tractors, 7 company service trucks and 5 motor buses as of the close of the year and operated 7,745 mi. of highway truck routes and 14 mi. of bus routes; and performed drayage services in 68 cities along Southern Pacific lines. In addition, wholly-owned electric railway companies in California operated 204 motor buses over 580 mi. of route, and used an additional 83 buses in joint operation of 121 mi. of bus route. The report read that "service by these companies is being further extended as conditions warrant."

Several of the wholly-owned motor transport companies which performed pick-up and delivery services for the railroad and local and long distance general highway freight service were afforded separate income and profit and loss accounts in the report. The Pacific Motor Trucking Company, operating 5,592 mi. of truck routes, enjoyed operating revenues of \$1,252,904 during the year, as compared with \$1,056,294 in 1938. The Southern Pacific Transport Company, operating 1,433 mi. of truck routes, earned \$343,731 in operating revenues during the year (after deducting \$787,865, representing contract payments to rail carriers), as compared with \$373,417 in operating revenues in 1938. The Southern Pacific Transport Company of Louisiana, Inc., operating 720 truck route-mi. had operating revenues of \$73,478 (after deducting \$186,264, representing contract payments to railroad carriers), compared with \$75,766 in 1938.

The People's Freight Line, Inc., which had operating revenues of \$12,344 in 1939, was dissolved as of March 31, 1939, on which date its properties and operating rights were sold to its sole stockholder, the Pacific Motor Trucking Company.

The report pointed out that store-door pick-up and delivery service for l. c. l. shipments is available at all stations on the railroad where the volume of traffic has warranted its establishment. Over the highway freight

service co-ordinated with railroad service is provided by Pacific Motor Trucking Company, operating in Oregon, California, Nevada and Arizona; Southern Pacific Transport Company, operating in Texas and Southern Pacific Transport Company of Louisiana, Inc. At the close of the year, over-the-highway services of these subsidiaries, operating either with owned equipment or under contractual arrangements with individual trucking concerns, extended over 7,745 mi. of highways. It was pointed out that in May, 1939, the Pacific Motor Trucking Company completed movement of approximately 517,000 tons of bulk cement for construction of the Colorado river aqueduct. Applications are now pending before various regulatory bodies for authority to extend operations.

The Interstate Commerce Commission granted, on April 30, 1940, authority for the road to purchase the Pacific Truck Express which operates extensively in Oregon and California.

The railroad disposed of its interest in local street railway and bus operations in cities and suburbs of Fresno, Cal., Stockton, and San Jose by sale of capital stock and other securities. In view of deficits of the wholly-owned Pacific Electric, plans have been approved and are in progress for the abandonment of certain unprofitable electric rail lines and substitution of bus service therefor. On September 1, 1939, Pacific Electric took over the physical properties and other assets of its wholly-controlled affiliate, the Motor Transit Company, the latter being dissolved December 26. The report pointed out that merger of the passenger, mail and express services of Motor Transit with Pacific Electric "permitted elimination of the remaining duplication of administrative and operating functions which had previously been co-ordinated to the extent practicable under separate operation."

In connection with the proposed abandonment of the wholly-owned Northwestern Pacific the report pointed out that the California Railroad Commission, on May 21, 1940, authorized the railroad to abandon its inter-urban passenger service when, within six months, the Pacific Greyhound Lines establishes a substitute motor coach commutation service.

The report also discussed operations of motor bus companies affiliated with the Southern Pacific. In this connection, it was pointed out that the railroad, at the end of the year, held 35.92 per cent stock ownership in the Pacific Greyhound Lines, which owns 539 motor buses operating over 9,231 mi. of routes in Oregon, California, Arizona, New Mexico, Texas and Utah. Pacific Greyhound had a net income after all charges of \$1,879,705 in 1939, an increase of \$146,888 or 8 per cent, compared with the previous year. The Southern Pacific, at the close of the year, had a 5.65 per cent stock ownership in the Southwestern Greyhound Lines, and in addition, 9.52 per cent through the St. Louis Southwestern, 87.32 per cent of whose outstanding capital stock is owned by the Southern Pacific Company. Southwestern Greyhound, at the end of the year, operated 203 buses over 7,136 mi. of route in territory east of Denver, Colo.; Albuquerque, N. M.; and El Paso, Tex., to Kansas City, Mo., and St. Louis; Memphis, Tenn.; and Lake Charles, La. This company enjoyed a net income after all charges of \$994,394 in 1939, a decrease of \$24,719 or 2 per cent, compared with 1938.

RACE-TRACK TRAFFIC on the Long Island to and from Belmont Park, N. Y., totaled 269,351 passengers during 24 racing days from May 13 to June 8, inclusive. This compares with 183,329 patrons carried during the corresponding 24 days in the spring of 1939, or an increase of 47 per cent.

## A. & St. A. B. Uses Buses and Trucks



Modern Equipment Is a Feature of the "Bay Line" (Officially the St. Andrews Bay Transportation Company) Prosperous Highway Subsidiary of the Atlanta & St. Andrews Bay—To Give Prompt Merchandise and Local Passenger Service, the Railway Is Paralleled by the Bus and Truck Line, the Latter Also Operating Beyond the Railroad Through Territory Not Served by Any Other Railway—This Operation Includes a Route Between Dothan, Ala., the Railway's Northern Terminal, and Columbus, Ga., and Between Panama City, Fla., the Southern Terminal, and Pensacola, Fla.

## Harriman Safety Medals Awarded

(Continued from page 1119)

(3) educating employees and securing their co-operation. A great majority of railway and all other accidents always were, and still are, due not to shortcomings of rules or plants, but to 'man-failures,' and the great achievement of railway managements and employees has been that of getting railway personnel to observe constantly in all its many kinds of work the fundamental rule of safety first.

"How much more important is the observance of this simple but vital rule than any other consideration is well illustrated by what has happened to trains while this great increase in railway safety has been occurring? Beginning more than thirty years ago and ever since there has been agitation for legislation or other action for reducing or limiting the length of trains as a safety measure. And yet while throughout the last thirty years the length of trains has been steadily increasing, and within recent years there has been a great increase in their speed, meantime the safety of operation also has been steadily increasing.

"In the five years ending with 1909, when the railway accident record was the worst in history, the average number of cars per freight train was only 28 and the

average speed of trains less than 10 miles an hour. In the five years ending with 1939, when the safety record was the best in history, average number of cars per freight train was 47 and average speed of freight trains more than 16 miles—an increase in each case of about 70 per cent. There have also been, of course, comparable increases in the length and speed of passenger trains. And yet, in proportion to the number of them employed, fatalities even to trainmen have decreased 75 per cent—the average number of them employed for each one killed having increased from 148 in 1905-1909 to 739 in 1935-1939.

"The important lesson in railway experience for all who are dealing with the problem of accidents in this country is that while improvements in mechanism are important, improvements in methods and men are much more important. The great reduction of fatalities and injuries on the railways has been accompanied by an enormous increase in fatalities and injuries on our highways. The problem of highway accidents, like the former problem of railway accidents, is principally a man problem—the problem of getting drivers of motor vehicles to practice 'safety first' as most railway employees do now; and whatever progress may be made in solving it will be made only in comparatively small measure by improving automobiles and highways, and principally by reforming the drivers of motor vehicles."



# Recent Developments for Locomotives and Cars . . .

## Locomotive Stoker of Simple Design

The Berkley locomotive stoker is a simple machine of proven engineering design with all moving parts mounted on sealed anti-friction bearings. Applications have been made on several railroads, including the Seaboard which has had 30 in service for over two years.

The stoker comprises three principal parts—the stoker engine, riser conduit, and tender-conveyor unit and weighs 4,017 lb. The stoker engine is designed for either saturated or superheated steam with all moving parts completely enclosed and oil sealed. The cylinders, piston valves, reverse valves and cylindrical crosshead guides are bushed with removable nickel cast-iron sleeves, and the crankshaft is mounted on ball bearings. The cylinders, valves and reverse valve receive valve oil from the mechanical or hydrostatic lubricator on the locomotive, and the remainder of the engine is lubricated by a splash system requiring six quarts of oil. The engine is reversed by a manually operated valve built integral with the engine and requiring no piping. The location of the engine is optional; it can be placed on the locomotive, tender, or at the rear of the gear box.

The riser conduit is connected with the ball of the tender unit beneath the cab deck and extends upward through the deck with its upper portion conforming to the contour of the fire-door opening. In the top portion of the conduit is a clean-out or inspection door which is convenient for removing clinkers from the firebox. If any foreign matter should get into the riser conduit, it can easily be removed through the clean-out door or hand-plate which is located at the lower portion of this unit.

The tender-conveyor unit is supported on two wheels mounted on roller bearings

with the track secured to the tender. The unit consists of a trough, trough screw, crusher and gear box. The length of the conveyor trough may be varied to suit the length and capacity of the tender. The amount of coal delivered to the conveyor trough is controlled by side plates that are arranged in the tender deck. All bearings are of the roller or ball type, properly lubricated and oil sealed. The trough screw is continuous from the gear box to the ball joint of the riser conduit and is connected to the conduit screw by a universal link, two blocks, two bolts, and two pins. The thrust load of the riser conduit screw and the trough screw is taken by two double-row ball bearings in the gear box. All the gears are made of special heat-treated steel, mounted on ball bearings and oil sealed. The thread type crusher is located at the forward end of the conveyor trough, crushing the coal to the proper size and supplying it evenly and continuously to the riser conduit.

The top deflector does not extend into the firebox. Its use assures satisfactory distribution of coal to the back corners of the firebox and it also deflects fine coal to the fire bed which otherwise would be lost through the stack. The jet apron fits in the lower portion of the upper part of the riser conduit and is held in place by two tapered set screws on either side of the riser conduit. To remove the jet apron it is only necessary to slack off the two set screws and disconnect the four ½-in. pipe unions below the conduit. The number and size of holes used in the jet apron are variable to suit the size of firebox and the type of coal used. It is divided into four compartments, each of which is controlled by a separate valve located in the jet manifold.

A gage is located on each side of the steam-gage panel with the black hands of these gages indicating the back corners and side sheets and the red hands indicat-

ing the front of the firebox. These two gages give the fireman an accurate reading of the jet pressure which will vary from 10 to 45 lb. per sq. in., depending on the weight of the coal being distributed. On the same gage mounting is located a steam gage showing the stoker engine and boiler pressures.

The stoker is made by the Berkley Machine Works & Foundry Co., Inc., Norfolk, Va.

## Metal Running Board For Freight Cars

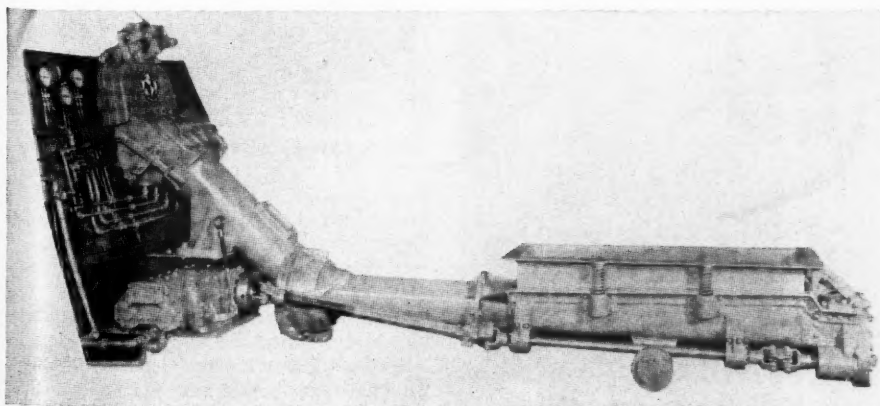
A metal running board for freight cars, known as the "Open-Grip," has recently been developed and placed on the market by the Morton Manufacturing Company,



The Morton Open-Grip Metal Running Board and Brake Step Is of Copper-Bearing Steel

Chicago. It is made of No. 12 gage copper-bearing steel, pressed cold to the shape shown in the illustration and subsequently galvanized by the hot-dip process. This running board is designed to be self cleaning by means of relatively large circular holes with extruded flanges which extend downward and greatly stiffen and strengthen the running board structure. No part of the upper surface of the running board has a flat surface but all parts are curved in such a way as to facilitate the passing through of dirt, snow, rain, oil, or any objectionable substance.

The anti-slip characteristics of this running board are secured by means of Kass safety buttons, formed in the original cold-pressing operation and said to afford proper frictional contact and hence prevent slipping in any direction. The safety-tread principle of design utilized in this running



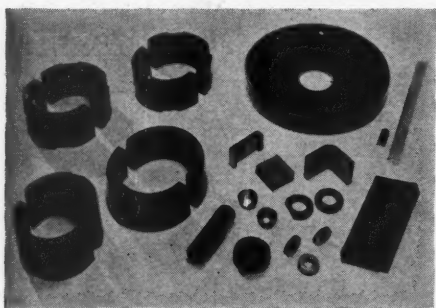
The Berkley Stoker with the Engine Mounted on the Locomotive

board is the same as that used by the railroads for many years in Morton Kass designs for shop stair treads, car-step treads, and, in fact, wherever anti-slip characteristics are necessary in the interest of safety.

This metal running board is easy and economical to install, due to the use of an ingenious design of rotating bolt seat which fits into the clearance hole at each point of attachment to the car roof and provides for an adjustment of approximately  $\frac{5}{8}$  in. in any direction by simply turning the bolt seat. This avoids the necessity of extreme accuracy in locating and punching attachment bolt holes. Owing to the use of the copper-bearing steel with a heavy hot-dip galvanize finish, it is anticipated that this running board will last as long as the car to which it is applied.

## Rubber-To-Metal Car Parts

To broaden its scope of service to the railroad field, The Dayton Rubber Manufacturing Company, Dayton, Ohio, is now manufacturing a complete line of rubber-



Some of the Rubber-To-Metal Parts for Railroad Service Made By The Dayton Rubber Manufacturing Company

to-metal parts. These insulate against sound transmission, cushion shock, and damp out vibration. They include, among others, insulators for speed control and standby motors, rubber quill for mounting axle pulleys, center-plate cushioning pad, center-plate rubber ring, and guide plate and tongue bushing.

## Four-Wheel Passenger-Car Truck

A lightweight passenger-car truck of the four-wheel single drop-equalizer type has been designed and equipped by the General Steel Castings Corporation, Eddystone, Pa., to produce improved riding conditions. It has coil springs in both the equalizer and bolster positions and is furnished with shock absorbers and bolster anchors. The use of coil springs throughout eliminates the inter-leaf friction present in the usual type of elliptic bolster springs, allows for ample spring deflection, and thereby improves the riding qualities.

The increased spring action is controlled by one-way shock absorbers mounted at



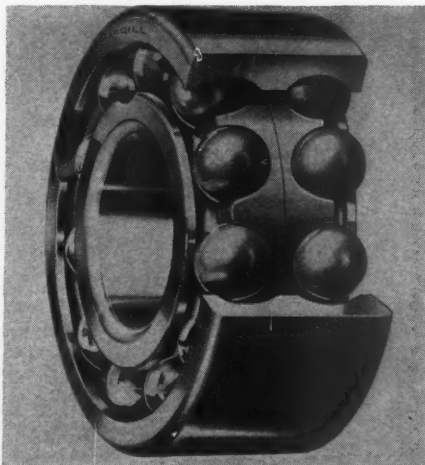
The Commonwealth Four-Wheel Truck Has Coil Springs in Both the Equalizer and Bolster Positions and Is Furnished with Shock Absorbers and Bolster Anchors

each end of the bolster. Positive cushioning and a reduction in noise is obtained, wherever practical, by the use of insulation which minimizes the metal-to-metal contact of the working parts of the truck. The bolster anchor arrangement replaces the conventional bolster and truck-frame chafing plates. It is applied on each side of the truck, being supported at one end by an integral bracket on the truck frame, the other end being attached to an integral bracket located on the extended end of the bolster. This maintains the bolster in its proper position and eliminates the wear on the chafing plates and the objectionable pounding between the bolster and frame.

Light weight with the necessary strength is made possible by the use of low-carbon nickel alloy steel for the truck frame and bolster. Trucks of this design are in service under many cars in lightweight streamline trains where smooth riding with freedom from vibration and lateral sway is demanded.

## Ball Bearing of Maximum Capacity

The McGill Manufacturing Company, Valparaiso, Ind., announces a new maximum-capacity double-row ball bearing that is designed for more liberal load ratings because of the greater number of balls in each row supporting the races. The extra balls are assembled through filling slots in the faces of both the inner and outer race.



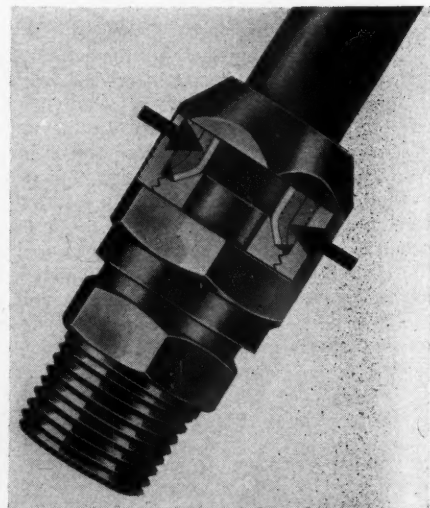
The McGill Double-Row Ball Bearing Is Designed for a Higher Load Rating

During operation, however, the slots cause no ball interference, inasmuch as the rigidity resulting from the angular contact fit-up does not allow race displacement.

The land-riding feature of all McGill bronze retainers is maintained in the new double-row design to relieve the balls of wear from retainer load and to guarantee concentricity with races during a lifetime of operation. Ball pockets are cylindrical in contour, which results in a line contact with balls, thereby reducing friction and decreasing ball wear.

## Self-Flaring Tube Coupling

The Packless Metal Products Corporation, Long Island City, N. Y., has developed a connector that can be applied without flaring tools, soldering, or brazing. In making up the coupling, the "nose piece" of the male connector forms its own seat. The floating ring and the nut give a union ef-



The Packless Self-Flaring Tube Coupling

fect which eliminates tube twisting, distortion, cracking and split ends.

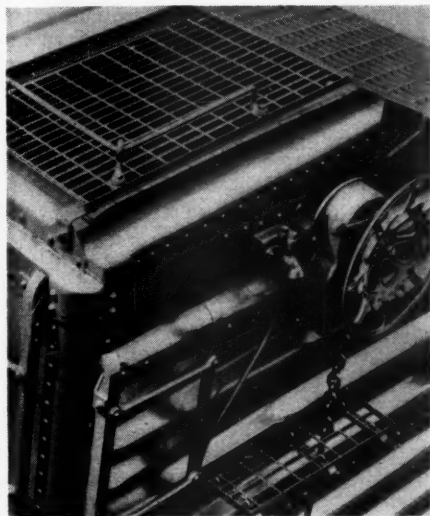
In assembling, the tube is cut to any desired length, after which burrs are removed inside and out. The swivel nut is then slid on the tube and the split ring is slipped on the same tube end until about  $\frac{3}{32}$  in. of the tubing projects beyond this ring. The swivel nut is then brought up against the split ring and engaged with the



threads of the male connector. The tube begins to flare after about two threads have been engaged and, by continuing to screw the swivel nut on, a full flare is made. At this point the connector seats tightly and a leak-proof connection has been completed. These tube couplings can be readily installed in close quarters. They are regularly supplied in high-quality brass or bronze, but, if specified, they can be furnished in aluminum alloy, carbon steel, stainless steel or Monel metal.

## One-Piece Metal Running Board

An open-mesh steel flooring for use as running boards and brake steps on railroad cars has been developed by the Blaw-Knox



**Serrated Bars Improve the Non-Skid Qualities of Blaw-Knox Open-Mesh Steel Running Boards and Brake Steps**

Company, Pittsburgh, Pa. This safety item is an adaptation of the company's electroforged grating but the new design has serrated bearing bars to improve its non-skid qualities.

The one-piece construction provides rigidity and freedom from rattling. Absence of bolted joints in this method of manufacture is likewise a factor in reducing corrosion and wear.

## Unit Truck and Brake Beam

The Unit truck combines a modern high-speed truck with foundation brakes interlocked in the truck side frame. The side frames are of approved design with the bottom brake-beam guide cast integral at an angle of 14 deg. on a radial line to the center of the axle. The top portion of the guide is attached to the frame by two  $\frac{3}{4}$ -in. rivets. This part of the guide secures the wear plate which protects the cast guide from wear. The guide, it will be

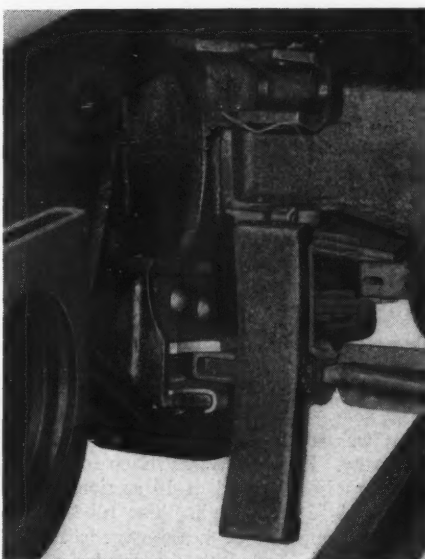
noted from the illustration, forms a socket for accepting the Unit brake beam.

The Unit brake beam is a solid forged truss having extended ends protected by  $2\frac{5}{8}$ -in. by 5-in. wear plates forming 26 sq. in. of bearing surface. The brake beam operates in the truck-frame guides which allows for the full floating beam necessary on the flexible type of trucks. The brake head is reversible and the strut is of special design. The pin hole is bushed and the bottom of the lever slot is closed for safety. The truck is equipped with conventional brake-hanger brackets to protect the car in interchange.

Comparative tests of this truck with the conventional A. A. R. truck and brake beams were made at Johnstown, Pa., in August, 1939, under the supervision of the A. A. R. The single car break-away test was used under identical conditions. The tests were made at speeds of 10 to 50 m. p. h. with service brake applications of 10 and 22 lb. per sq. in. brake-cylinder pressure and at full emergency applications with the result that the Unit truck produced a 5.9-per cent higher brake-rigging efficiency. It was found that this truck was particularly efficient in the higher range of speeds and that the Unit brake produced 11 per cent more shoe bearing than the conventional type.

In switching service after 2,500,000 brake applications the brake beam of a Unit truck showed negligible wear. One of these trucks under an auxiliary water car after 130,000 miles in high-speed service showed 0.03-in. wear on the brake-beam wear plate and 0.02 in. on the side-frame wear plate. No measurable wear was found after 400,000 miles in refrigerator-car service and after 25,000 miles under tank and chemical cars.

Service tests indicate that these trucks will not only increase the braking efficiency, but will greatly prolong the life of the car wheels as the toggle action of the hanger type of brakes is absent in this guided brake beam. It thus tends to eliminate brake-skid spots on the wheels. A fur-

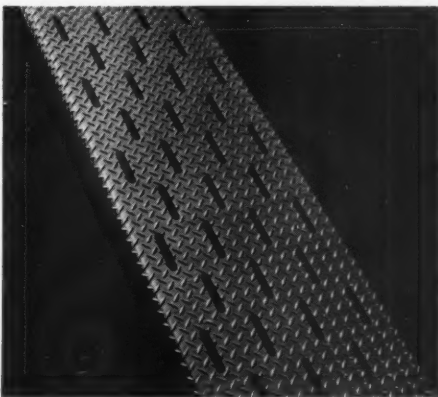


**The Brake Beam of the Unit Truck Operates in Truck-Frame Guides—Conventional Brake-Hanger Brackets Protect the Truck in Interchange**

ther indication of the efficiency of this type of brake is that in 800,000 miles, all brake shoes were reported to be wearing full and even and none had been found broken. This equipment is made by the Unit Truck Corporation, New York.

## Slotted-Type Steel Running Boards

A section of the patented A. W. slotted-type steel running boards, developed by the Alan Wood Steel Company, Conshohocken, Pa., for railroad use, is shown in the illus-



**The Alan Wood Super-Diamond Steel Running Boards Have Slots of Hand-Hold Size for Extra Security**

tration. These running boards are made from solid-steel plate to minimize the possibilities of corrosion and to give maximum service during the life of the car. The slots are of hand-hold size for extra security and the arrangement of these slots is designed to insure additional protection against dangerous falling accidents.

## Bronze Welding Rod For Reducing Lateral

The lateral faces of steam-locomotive driving, engine-truck, and trailer-truck boxes can now be faced with the new economical 6-F bronze welding rod developed and manufactured by the National Bearing Metals Corporation, St. Louis, Mo. It is a leaded bronze rod which conforms to the A. A. R. specifications for locomotive bronze bearings and is furnished in two convenient sizes,  $\frac{7}{8}$ -in. square by 16 in. long and  $\frac{1}{4}$ -in. square by 13 in. long.

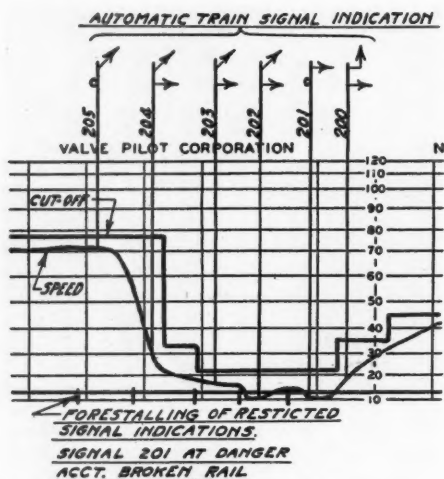
This rod can be deposited speedily and easily with a good bond to rolled, forged and cast steel or to brass and bronze by the electric-arc method without the use of any flux. Experienced welders report the application of one pound of the more economical  $\frac{7}{8}$ -in. square rod per minute, using welding machines with a capacity of from 400 to 600 amperes. This rod can also be applied by the gas-weld method with the use of a conventional flux.

The bearing or thrust surfaces built up with this rod possess the essential chem-

ical and physical characteristics of a highly anti-frictional leaded bearing bronze. Considerable savings in labor and material are said to have been effected by the successful application of this rod to these surfaces on several railroads.

## Automatic Train-Signal Recorder

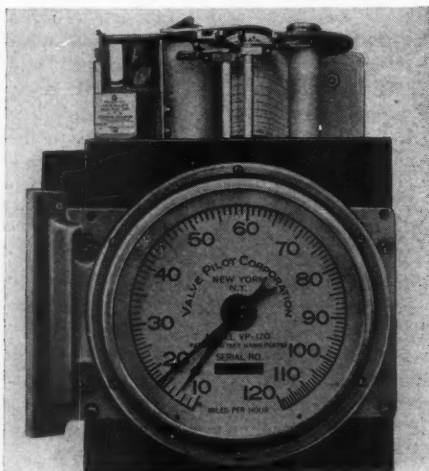
A novel piece of equipment recently added to the locomotive Valve Pilot furnishes an autographic record of forestalling at restrictive signals in train-control territory.



A Section of Tape Showing the Autographic Record of Forestalling Made by the Train-Signal Recorder

The automatic record is made on the tape in addition to its present records which show speed and cut-off.

The operation of the automatic train-signal recorder is controlled by an electro-pneumatic switch in the forestalling circuit of the train-control mechanism, the switch being closed by the admission of air to the warning whistle at the moment of forestalling. When the switch is closed the current energizes an electro-magnet lo-



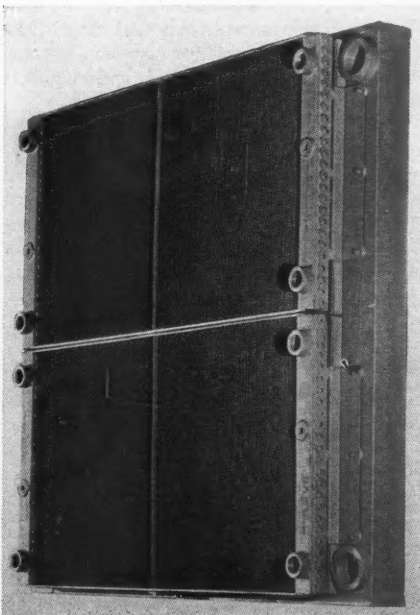
The Valve Pilot with the Automatic Train-Signal Recorder Electro-Magnet and Pencil Arm Installed

cated in the recording compartment of the instrument and causes a pencil attached to the armature of the electro-magnet to make a short mark at right angles to the direction of travel of the tape. Except when forestalling occurs, the pencil simply draws a straight line near the edge of the tape parallel with the horizontal ruling. The automatic train-signal recorder electro-magnet and pencil arm applied to an instrument is shown in one of the illustrations. The other is a reproduction of a short section of tape and indicates the character of the record when the engine-man forestalls at a point where a restrictive signal is encountered and the analysis of the operation.

This device added to the Valve Pilot further improves the safety of railroad operation by giving the management a written record of alertness in the observance of operating rules relating to restrictive signal indications in train-control territory. It is a development of the Valve Pilot Corporation, New York.

## Radiators for Diesel Locomotives

The illustration shows one portion of a two-radiator installation on a locomotive powered with an eight-cylinder, 1,000 hp. De La Vergne Diesel engine. This equip-



One of Two Young Radiators Installed on a 1,000 Hp. Diesel Locomotive

ment was supplied by the Young Radiator Company, Racine, Wis. Each of these radiators is composed of 10 sections, 6 in. wide and 52½ in. high. The tube structure is composed of heavy-gage seamless tubes, fusion-bonded to the header plates and castings. Mounted integrally with the water cooling radiator is an oil cooler having two cores, one row of tubes deep, equipped with a Young chain agitator de-

signed to effect a high rate of heat transfer from the oil.

The heat load handled by this cooling system is 50,000 B.t.u. per minute from engine jacket water with a maximum temperature of 185 deg. and 90 deg. ambient air temperature. This is with 400 gal. of water circulating through the system per minute. The heat load from the lubricating oil to the oil cooler is 4,000 B.t.u. per min. with the oil at 147 deg. maximum and 90 deg. ambient air temperature and 61 gal. of lubricating oil circulating through the cooler per minute. The air delivery required through this cooling system is 61,000 cu. ft. per min.

## Dome-Cover and Outlet-Cap Gaskets

A tank-car gasket for dome covers and outlet caps has been introduced during the past year by the Quaker Rubber Corporation, Philadelphia, Pa. This gasket, known as the "Koloil," is cut from a special solvent-resisting rubber compound that has been reinforced with enough synthetic oil and alcohol-resisting composition to produce a packing adapted to handle syrups, glycerine, petroleum oils, vegetable oils, alcohols, tar solvents and liquids of all kinds transported in tank cars.

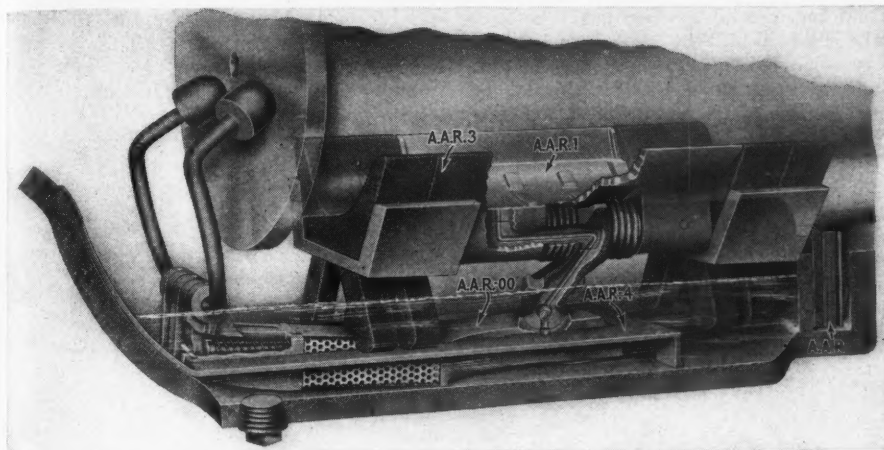
The outlet-cap gaskets range in size from a 2½ in. inside diameter and 5 in. outside diameter to 3¼ in. inside diameter and 5¼ in. outside diameter with thicknesses of ⅛ in. to ⅞ in. The dome-cover gaskets vary in size from a 14½ in. inside diameter and 16¾ in. outside diameter to a 16 in. inside diameter and 18 in. outside diameter, and from ⅛ in. to ¼ in. in thickness. The gaskets for both purposes are available in sufficient intermediate sizes to enable the shipper to select the proper size for his commodity with a tight or loose fit as desired.

## Mechanical Lubricator For A.A.R. Journals

The Hennessy Lubricator Co., New York, has developed a mechanical journal lubricator for use in A. A. R. journal boxes of all sizes, which can be applied without any change in the box, journal, or bearing. Its design permits the removal and application of the bearing without disturbing the lubricator. This lubricator dispenses with the use of waste and thereby eliminates the possibility of waste grab, allows the use of a heavier lubricant than car oil, and assures positive delivery of an ample supply of lubricant to the journal by mechanical action.

The delivery of oil to journals by capillarity when employing waste, the conventional method, requires the use of a low-viscosity oil. This means that the proper lubricant from the standpoint of viscosity for journals carrying loads such as those to which A. A. R. journals are subjected can not be used at all times. The oil of lower viscosity delivered in this manner





The Hennessy A. A. R-Type Mechanical Lubricator for Outside-Bearing Journals Can Be Applied without Any Change in the Box, Journal, or Bearing

does not afford sufficient lubrication under certain conditions. This results in high operating temperatures which, in turn, causes the waste or other material through which the oil is fed by capillarity to become glazed or hardened with a relatively small amount of service. This may result in excessive wear and hot boxes.

The A. A. R-type lubricator shown in the illustration is similar in operation to previous lubricators built by this company. The pump, A. A. R.-00, is actuated by the lateral movement of the journal, and forces the lubricant up to the distributor, A. A. R.-1. The felt pad, A. A. R.-3, is employed primarily to give warning in the event the journal heats in service.

## Latched Lid for Journal Boxes

The problem of securing a tight joint between the lid and the journal-box lid face is an old one. The first step towards a

With the trend towards a center-pressure lid has gone a specified increase in the lid pressure, making the lid harder to operate and accelerating the wear of the hinge



Rear View of Lid Showing Gasket of Oilproof Synthetic Rubber Vulcanized to the Lid

lug. Regardless of increased spring pressure, there have been instances where ice has forced the lid partly open, permitting the loss of lubricant and the entrance of water.

To remedy this condition, the Symington-Gould Corporation, Rochester, N. Y., has devised a latched lid, the latch being in the form of a bell crank, the lower end of which engages a lug on the "chin" of the box, this lug being either integral with the box or bolted thereto. The lid is unlatched simply by pressing with a packing iron or hammer head against the upper arm of the bell crank. When unlatched the lid may be lifted and closed quite easily because the greater part of the final closing pressure is obtained through the further compression of the lid spring which is necessary in order to latch the lid. This materially reduces hinge-lug wear, speeds up the operation of box inspection and eliminates objectionable noise on passenger equipment. When closing the lid, it is latched by simply pressing a little harder on the looped extension of the lid lever until the latch slips over the lug. The upper portion of the lid lever protects the

internal mechanism from ice or dirt, and the hooded lower portion protects the latch itself from becoming inoperative because of ice. Any ice accumulating underneath can be easily knocked off before unlatching.

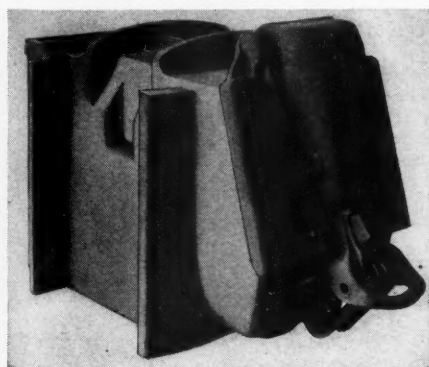
This lid is furnished either with a plain or grooved joint surface, and also with a gasket of oilproof synthetic rubber vulcanized to the lid. This is shown in the rear view. Under a test in which the gasketed lid was repeatedly drenched with water and successively frozen at a temperature of 40 deg. F. below zero, the vulcanizing bond proved stronger than the ice bond, so there is no danger that this gasket would be torn from the lid during winter operation.

## Insulated Wires for Railroad Application

Braided coverings have been eliminated in a new wire developed by The Okonite Company, Passaic, N. J. Instead, an Okoprene sheath made of neoprene is applied over and bonded to the Okonite insulation during the insulating operation. This stable covering is flameproof and resistant to oils, chemicals, heat and abrasion. It is more durable than a braid and contains no saturants that can drip or clog ducts. Available in colors, this wire is finding wide use for car and shop wiring and for control and signal circuits.

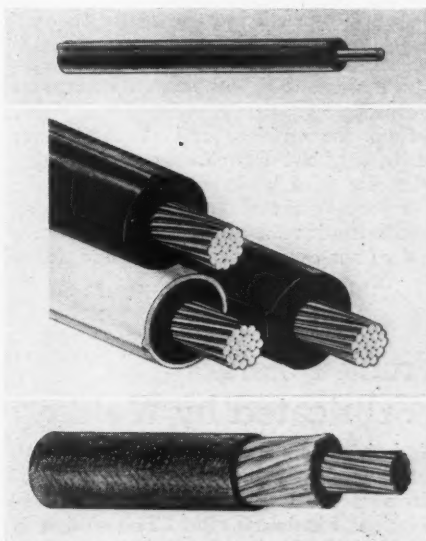
Glass has also been adapted as an insulation by this manufacturer. Okoglass wires are insulated with glass fibre applied over the copper conductor in the form of rovings and even the braids are woven from this material. Non-combustible glass-insulated cables are unaffected by the high temperatures encountered in locomotive cables and in headlight circuits. They are also suitable for use in wiring light fixtures where high lamp intensities generate heat in the fixtures.

This company is also marketing a wire called Okoseal which is protected with a



The Symington-Gould Latched Journal-Box Lid

solution was the use of an articulated or center-pressure lid in place of the outmoded one-piece design which, from the nature of the cam action of the standard hinge lug, can only press tightly against the bottom of the lid face, while the section of the spring tends to force the top of the lid away from the box.

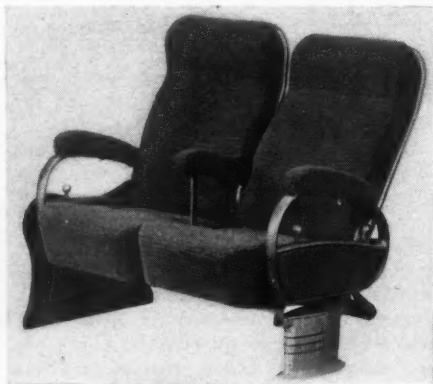


Top: Switchboard-Type Okoseal Wire—Center: Okonite-Okoprene Wire—Below: Okoglass Wires

non-inflammable, moisture-resisting synthetic insulation. These wires require no coverings over this tough, leatherlike insulation as it is unaffected by oils, acids, or other deteriorating influences. The insulation is recommended for switchboard wiring, for signal towers, and for circuits lying in oily ducts. These wires may be obtained in a wide variety of colors for circuit identification. Okoseal is also used as an overall sheath for various types of cables. Applied, for instance, over Okoglass insulation, it makes a non-inflammable wire that can be installed in wet locations without fear of damage from moisture. All these products may be obtained in the standard conductor sizes and for various voltages.

## Rotating and Reclining Chair

A recent development of the Heywood-Wakefield Company, Gardner, Mass., is a rotating reclining chair with an individual folding footrest and center arm. It has



**This Heywood-Wakefield Rotating and Reclining Chair Has An End Pedestal without Exposed Bolts at the Floor Line**

an end pedestal of new design without exposed bolts at the floor line, and a new tubular oval armrest of pleasing design which harmonizes with the tubing around the backs.

Both the cushions and the backs are easily detached for cleaning and repairs. The seat is light in weight and has the Heywood-Wakefield patented reclining mechanism installed in the seat ends where it does not encroach on the cushion width.

## Truck Bolster Fabricated by Welding

A freight car truck bolster of welded, rolled steel is one of the latest developments of the Carnegie-Illinois Steel Corporation, Pittsburgh, Pa. This design is built of two U-shaped halves welded together to form a box section. The upper half is made from a ship channel, the lower half is pressed from a special plate having

a thicker central portion and the two halves are welded by an automatic process. Suitable stiffeners are welded inside the bolster under the center plate and the side bearings and at the ends. These serve to brace and strengthen the construction. The center plate, column guides and dead lever fulcrum are welded to the bol-



**U S S Welded Steel Freight Car Truck Bolster Made Up of Two U-Shaped Halves Welded Together**

ster. After the welding operations are completed the bolsters are stress-relieved.

A typical set of test results on the 50-ton bolster indicate that the actual deflection and sets in the transverse, side bearing and center plate loading tests were well under the limits established by the specifications; that the deflections produced by these loadings increased uniformly and the actual maximum load was well in excess of the minimum requirements.

## High-Velocity Air Diffuser

The railway Anemostat is an air diffusing device which assures draftless distribution of any volume of air at any velocity. The principle employed in handling air through this device is the creation of a multiplicity of air currents traveling in planes or blankets at a variety of angles to each other, together with the creation of a multiplicity of counter currents.

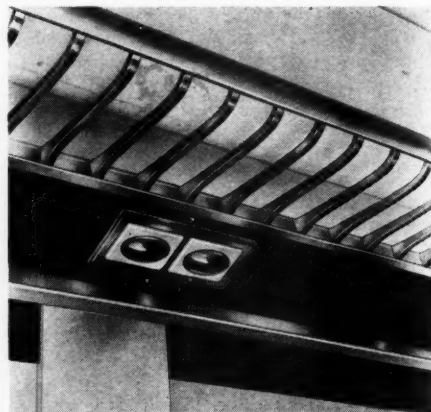
The Anemostat consists of hollow, flaring members placed in such a relationship with each other as to draw 35 per cent of room air into these members, where the room air mixes with the cooled or heated air before the latter is discharged. Two of the flaring members act as injectors only, while

the other members have the dual function of ejectors and injectors. This mixing effect is called "aspiration" and permits the use of high temperature differentials between the supply and room air. The series of cones which form the unit discharge the air in definite proportions in all directions. This diffusion, together with the

aspiration, causes prompt equalization of temperature and, therefore, humidity throughout the car and prevents air pockets.

The unit has no moving parts, is easily fastened to the ducts, and may be combined with light fixtures or light effects. It is made by the Anemostat Corporation of America, New York.

♦♦♦



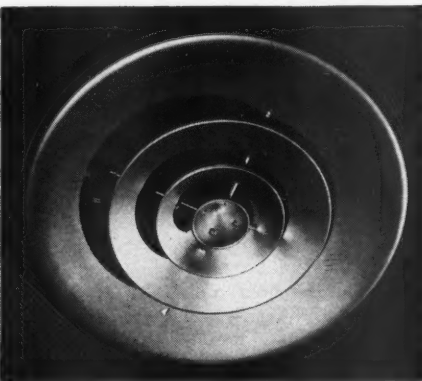
**Twin-Lensed Baggage Rack Developed by Luminator, Inc., Chicago, Is Designed to Permit Passengers in Adjoining Seats the Choice of Reading or Sleeping without Being Disturbed—A Magnifying Lens Affords Control of the Light Beam**

♦♦♦

## G-B Friction Bolster Spring

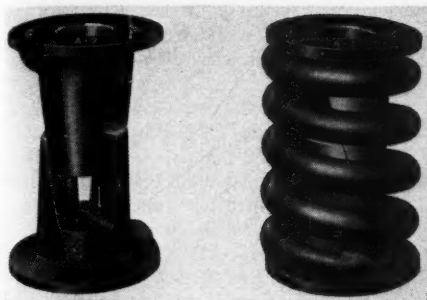
The G-B friction bolster spring consists of only three parts, including one spring and two identical special high-alloy-steel forgings, heat treated and hardened to insure maximum life. The assembled device may be placed in the standard A. A. R. spring cluster under the bolster with either end of the spring up, assuring proper application.

The ends of the coil spring are squared for a bearing against the shoulders on the friction blocks. Therefore, when the assembled device is compressed under load



**One Type of Air-Diffusing Anemostat**



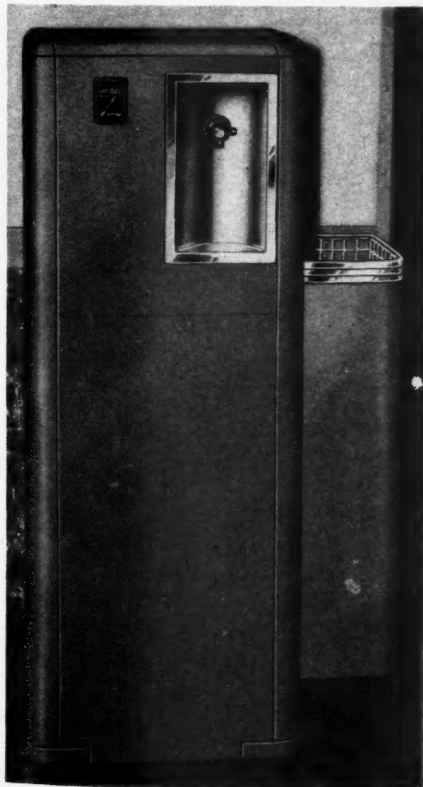


The G-B Friction Bolster Spring

each friction block because of the taper of its legs, turns slightly, thereby causing torque action in the spring. This torque action, together with the spring resistance to compression and the friction on the tapered face of the legs and the top and bottom surfaces of the forgings, works toward a stabilizing effect on the car trucks. By replacing one spring of the A. A. R. spring cluster with one of these bolster springs, the total capacity of the spring cluster is greatly increased and the recoil of the springs is reduced just enough to insure smooth riding to lading and equipment at all operating speeds. This new development is a product of the Gustin-Bacon Manufacturing Company, Kansas City, Mo.

## Railway-Car Electric Water Cooler

A line of electric water coolers for railway car application is announced by Cordley & Hayes. These coolers are sold by



One of the Cordley &amp; Hayes Electric Water Coolers for Railway-Car Application

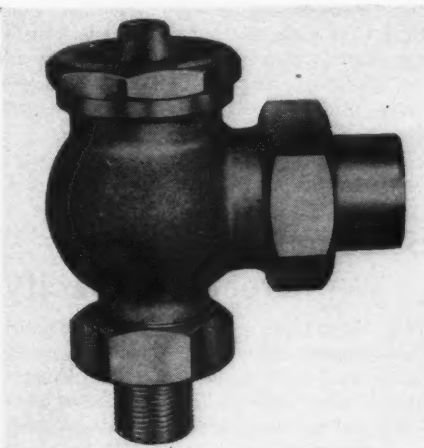
E. A. Lundy, Inc., New York. The model shown is equipped with a stainless steel alcove and a waste cup container with a removable wire mesh basket.

The cabinet is of one-piece welded furniture steel with a removable lower front panel, making all parts accessible for service. The single-cylinder compressor and 1/8-hp. motor assembly is mounted on live rubber to assure quiet operation. There is thermal element protection against overload or voltage drop and a simple dial adjustment to regulate the drinking water to any desired temperature. Rock wool insulation is used and the refrigerant is Freon.

Dimensions of the cooler proper are 15 1/4 in. by 15 1/4 in. by approximately 40 in. high and the dimensions of the waste-cup container, 24 in. long, 24 in. wide, and 6 in. deep. Another type of cooler is available for mounting in the clerestory of the car. This model is used in connection with an alcove and faucet placed in any convenient spot for passenger use.

## A Train-Line Drain Valve

In cold weather, when all the condensate formed in the train line has to be discharged through an end valve, an extreme-



The Sylphon Train-Line Drain Valve

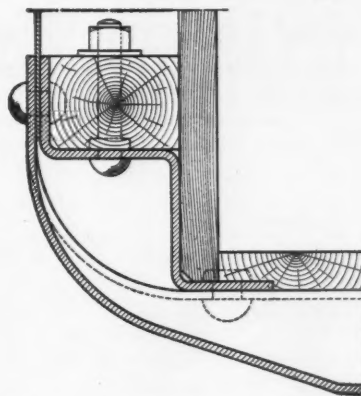
ly high pressure at the locomotive is necessary to furnish heat to the last few cars in a long train. The No. 3301-R Sylphon high-pressure train-line drain eliminates this difficulty by discharging the condensate from each car where it is formed. This leaves the entire area of the train line free to carry steam. This trainline drain is suitable for pressures up to 200 lb. per sq. in. It is made by the Fulton Sylphon Co., Knoxville, Tenn.

## Dreadnaught End Strengthened

The Standard Railway Equipment Mfg. Co., Chicago, has developed a round corner and W-section corner post in conjunc-

tion with the Dreadnaught end, entirely interchangeable with A. A. R. standards. Tests conducted at the University of Illinois show that the restrained action developed by the round corner and W-section corner post increases the strength of the end 25 per cent.

This stronger end adds to the general appearance of the car and is furnished for



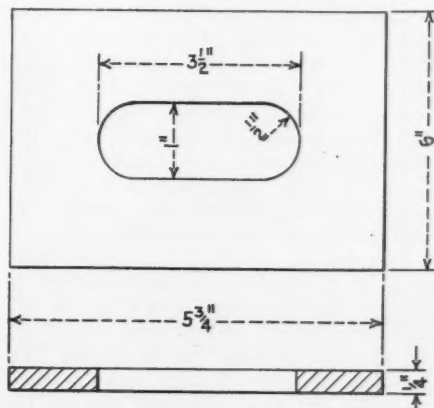
The Strength of the Dreadnaught Steel End Is Increased 25 per cent by the Round Corner and W-Section Corner-Post Construction

riveted or welded construction. The riveted type has an offset seam to furnish clearance between rivet heads and lining boards so that full strength of the lining is developed.

## Resilient Pads for Locomotive Springs

Small resilient pads made of Fabreka are being increasingly used on locomotive springs to prevent or reduce spring breakage. These pads which are about 6 in. by 6 in. by 1/4 in. or 3/8 in. thick, are applied at the ends of semi-elliptic locomotive springs beneath the end clips. It is said that the use of these pads at this point in the last three and one-half years has resulted in either the complete elimination of bothersome spring breakage or a great reduction in it.

The pads, applied in this manner, serve to cushion the impact blows received at

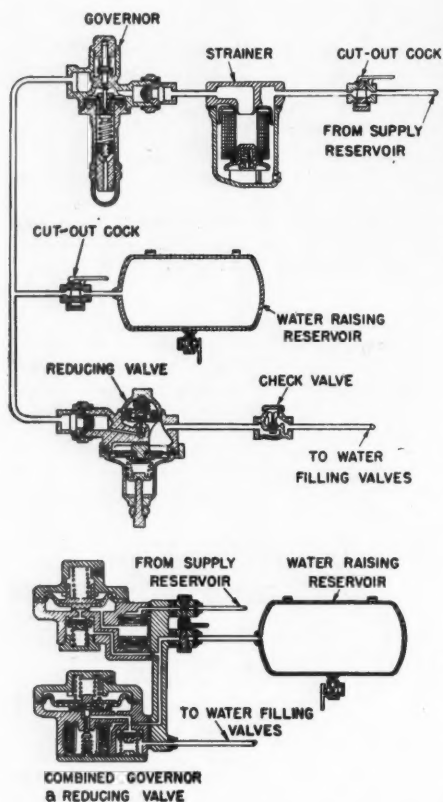


Typical Shape of Fabreka Pad for Application Under Locomotive-Spring End Clips

rail joints, curves, and switches and to absorb the resultant secondary high-frequency vibrations which tend to accelerate the fatigue failure of locomotive springs. They are made by the Fabreeka Products Company, Boston, Mass.

## Combined Governor And Reducing Valve

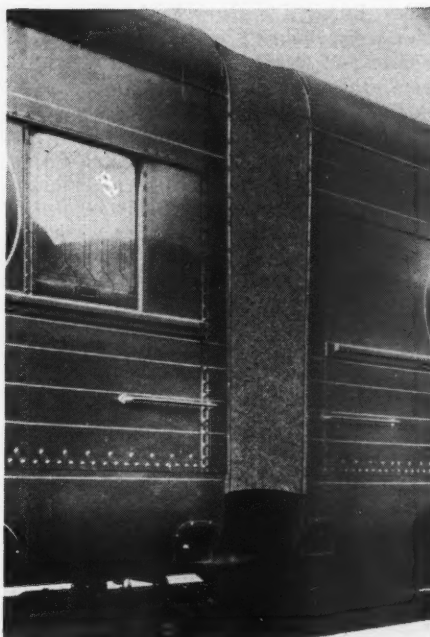
The Westinghouse Air Brake Company, Pittsburgh, Pa., has developed a combined governor and reducing valve for water-raising systems. It has the same functions



Above: The Old Standard Arrangement of Separate Devices for the Water-Raising System—Below: The Westinghouse Combined Governor and Reducing Valve Performs the Same Functions

as the present arrangement of separate devices, but is simpler to install and less expensive to maintain. The two valve portions are assembled on a common bracket which makes this arrangement more compact, conserves installation space and permits the removal of operating parts for inspection, cleaning and testing without disturbing pipe connections. To facilitate installation and minimize air leakage, reinforced flanged unions are furnished.

Two cut-out cocks, operated simultaneously by a single handle, are attached to the pipe bracket which allows for the removal of portions without first exhausting the air from the water-raising system. The operating pressure of each valve is permanently set before shipment, thereby insuring against any change in adjustment in service. Protective air strainers of



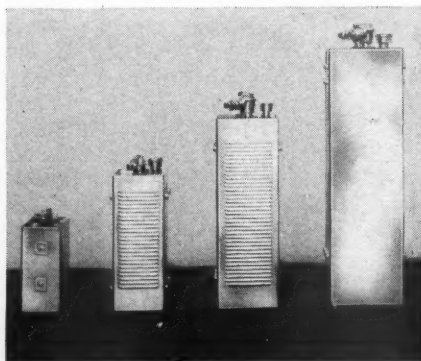
The Cord-Reinforced Rubber Diaphragm for Streamline Trains Developed by the B. F. Goodrich Company, Akron, Ohio—It Is Covered with a Synthetic which Resists Sun and Air and Can Be Obtained in Any Color

\*\*\*

curled hair and felt are installed in the inlet passages and the spring-chamber vent ports have wasp excluders. Two WABCO non-return check valves in series, one in the governor and one in the reducing valve, prevent the back flow of water to the air-brake system.

## Storage Cell Of Greater Capacity

The Edison Storage Battery Company, West Orange, N. J., has announced a nickel-iron-alkaline storage battery of greater height which affords an increase of one-third more capacity without an increase in floor space requirements. It has been designed primarily for large heavy-duty trucks, for trucks operating 24 hours a day and requiring 12-hr. batteries, for trucks operating in narrow spaces and having bat-



Left to Right: Edison Type B, A, C and D Cells—The Height of the New Type D Cell May Be Compared with the Earlier Types

tery compartments of limited floor area and for trucks the daily work schedules of which have outgrown their original batteries.

The type D cell is made in four sizes—D6, D8, D10 and D12, having capacities of 450-, 600-, 750-, and 900-amp. hr., respectively. They are about one-third higher, have one-third greater capacity and approximately the same horizontal dimensions as the C-type cells having the same number of positive plates. The illustration shows the size of the D-type cell compared to earlier cells used for motive-power purposes.

\*\*\*



A Revolving Reclining Coach Seat Built by S. Karpen & Bros. Company, Chicago—It Has a Stainless-Steel Foot Rest and a Folding Center-Arm Cushion which Slides Forward as the Back Reclines

There was a man who lived near a railroad yard. Not being a railroader or a "fan," he did not appreciate the beauties of his environment—and, accordingly, addressed the following letter to the superintendent:

"Dear Mr. Railroad Boss:

"Is it absolutely necessary, in the discharge of his duty day and night, that the engineer of your yard engine make it ding and dong and fizz and spit and clang and bang and buzz and hiss and bellow and wail and pant and rant and yowl and howl and grate and grind and puff and bump and clink and clank and chug and moan and hoot and toot and crash and grunt and gasp and groan and whistle and wheeze and squawk and blow and jar and jerk and rasp and jingle and twang and clack and rumble and jangle and ring and clatter and yelp and croak and hum and snarl and puff and growl and thump and boom and clash and jolt and jostle and shake and screech and snort and snarl and slam and scrape and throb and crink and quiver and grumble and roar and rattle and yell and smoke and smell and shriek like hell?

"Tell me, Mr. Boss, is it absolutely necessary?"



# NEWS

## Brookings Raps I. C. C. on Rates

Says regulators are assuming  
managers' job without its  
responsibilities

Criticism of the treatment of the railroads at the hands of the Interstate Commerce Commission and the gradual encroachment by that body on the carriers' prerogative of management is voiced in a report made public this week by the Brookings Institution. The criticism of the commission is found in the study which "concludes a broad investigation into the relationship of government to economic life, and which traces the course of government assistance, regulation and control in the field of private business as well as direct public production, from the beginning of the nation." The authors of the study are Leverett S. Lyon, Victor Abramson, Charles L. Dearing, Frank A. Fetter, Charles O. Hardy, Paul T. Hoeman, Ben W. Lewis, Edwin G. Nourse, and Eleanor Poland.

Discussing the subject of recent railroad rate cases and the practice of the commission to substitute its judgment for that of management, the report states that "When private management and the Interstate Commerce Commission arrive at divergent business judgments as to the economically desirable level of railroad charges, as they frequently do, the commission possesses and has consistently exercised the power to substitute its judgment for that of private management. The exercise of this type of managerial supervision is producing a situation in which neither private management nor public authority can be held clearly accountable for the financial solvency and general operating effectiveness of the regulated enterprises."

"On the one hand, private management is definitely and in many respects narrowly limited in its freedom to take such action as it deems advisable in the discharge of its responsibility to the private owners of railroad properties. On the other hand, the regulatory commission cannot be held fully responsible for any failure to achieve the financial stability and unification of the nation's railroad system. In some important respects its initiative is circumscribed by constitutional and statutory limitations. But what is more important no legislative consideration has been given to the fundamental problem of holding regulatory authorities directly responsible for the financial results of their

## House Overrides Veto of Bridge Bill

By a vote of 324 to 68, with 39 members not voting, the House of Representatives on June 19 voted to pass, over the President's veto, Representative Hobbs' (Democrat of Alabama) bill, H. R. 9381, which would provide relief for railroads with respect to the cost of rebuilding bridges required to be altered in connection with waterway projects. Details of the President's veto message were given in last week's issue. At the same time Senator Truman, Democrat of Missouri and the author of a similar measure in the Senate, served notice on his colleagues that as soon as practicable he would ask the Senate to take similar action and refuse to sustain the veto.

managerial decisions. Thus fundamental contradictions have developed between the stated objectives of railroad regulatory policy and the means provided for achieving those objectives. Not only are the resultant frictions operating with corrosive effect upon the forces which animate a system of private enterprise; but they are also negating many of the public managerial functions which were intended to supplant or supplement private initiative."

The report goes on to point out that the lines of promotional and regulatory action pursued especially since 1920 have not been directed toward any unified transportation objective. Promotional activities in the fields of highway, water, and air transportation have been pursued, it goes on to say, as independent legislative and administrative programs. The report then concludes that "In appropriating public funds to be utilized in the extension of the country's transportation plant, Congress has not been governed by any general criteria of the country's need for transportation facilities. The net effect of these activities has been the development of intensive inter-agency competition."

## Bill Would Authorize Funds for Toll Bridges

Representative Lea, Democrat of California, has introduced in the House H. R. 10066, a bill which would amend the Federal Highway Act by permitting states to use some of the federal funds allocated for road building to construct toll bridges. The bill provides that all such toll bridges constructed should be amortized from the tolls and, when finally paid for, should be thereafter free.

## Take Strings Off RR Truck Use

Roads and shippers urge I.C.C.  
remove restrictions which  
prevent co-ordination

The Interstate Commerce Commission heard oral argument in a number of cases involving extensions of railroad truck service on June 19 on the question of what type of restrictions should be placed on railroad controlled truck lines which are used in auxiliary or substitute service. Attorneys for various rail carriers argued that the restriction imposed by Division 5, in the cases where it grants railroads the right to substitute or supplement their rail service by trucks, to the effect that these trucks may only handle freight which has moved or will move on a through bill of lading on a railroad, is too stringent and should be removed. The argument was disjointed, due to the fact that the speakers were often interrupted by questions from the bench.

The list of those appearing included: Harry E. Boe, general attorney for the Chicago, Rock Island & Pacific; Charles T. Abeles, general attorney for the Seaboard Air Line; W. E. Davis, attorney for the Kansas City Southern Transport Company; W. L. Grubbs, attorney for the Louisville & Nashville; H. Z. Maxwell, assistant general counsel of the Pennsylvania; C. O. Heinley for the Hutchinson, Kans., Chamber of Commerce; C. R. Real for the Topeka, Kans., Chamber of Commerce; H. F. Krogman for the St. Joseph, Mo., Chamber of Commerce; C. M. Mulholland for the Railway Labor Executives Association; S. C. Lush, Brotherhood of Railroad Trainmen; J. R. Turney, Common Carrier Division of the American Trucking Associations, Inc.; R. E. Kidwell, East Texas Motor Freight Lines; Reagan Sayers, Red Ball Motor Lines; and Edgar Watkins, Jr., Southern Motor Rate Conference.

The railroads and the Chambers of Commerce asked the commission to remove the third of four restrictions which it has been writing into cases in which it authorizes them to use motor vehicles owned and operated by subsidiaries. The text of the condition follows:

"Shipments transported by applicant by motor vehicle shall be limited to those which move under a through bill of lading covering, in addition to movement by motor vehicle, a prior or subsequent movement by rail," 19 M. C. C. 702.

Mr. Boe and others who argued for the railroads contended that the restriction

made the permission virtually unworkable, caused discriminations against communities and made it practically impracticable for the railroads to compete, in their attempts to improve their l.c.l. service, with carriers by motor vehicle. The discrimination against communities was best illustrated by the case of a man trying to ship from St. Joseph, Mo., to a point about 30 miles west of that city. Mr. Boe explained that unless the freight that the St. Joseph man offered had had or was to receive a rail haul, the Rock Island could not move it by truck. But a competitor, a few miles from St. Joseph, having freight that had had a rail haul, could get the rail motor service to the point to which the St. Joseph man could not obtain rail truck service for the reason that the Rock Island could not give l.c.l. service between points on its railroad by truck.

The question of the policy of the railroads regarding joint through rates with motor carriers was raised from the bench after the point had been made that the interchange between railroads and the railroad-controlled trucks was generally confined to an interchange between the railroad and its motor carrier subsidiary.

"Why don't you interchange with other motor carriers under joint rates?" queried Commissioner Rogers.

Mr. Boe's answer was that there is now no general policy against such a practice due to the recent decision of the Association of American Railroads' resolution forbidding such an arrangement.

"Will you now establish such joint rates?" asked the commissioner. Mr. Boe replied that he did not feel that he could unequivocally say "yes," but he added that "we are parties to motor tariffs" without explaining whether "we" meant the railroad or the Rock Island's motor carrier subsidiary.

"Would that be the policy of the Rock Island?" asked Commissioner Patterson. Mr. Boe said he would not like to say at this time.

Mr. Boe also told the commission that under the restriction it would be necessary for a railroad to maintain a large staff in the handling of traffic to and from the substituted motor service to check every package to determine whether it came within or fell outside of the restriction relative to prior or subsequent rail haul.

Commissioner Lee wanted to know whether it would be fair to say that the Rock Island was desirous of establishing a trucking service along its railroad. The Rock Island, according to Mr. Boe, was primarily in the railroad business but that it wanted to supplement its rail service by using motor trucks and thus give the public the type of service that it desires. He concluded by saying that he did not believe the Rock Island could profitably engage in long distance trucking but he did think that it could use coordinated rail and truck service on short hauls.

The Seaboard, according to Mr. Abeles, was merely asking the commission for authority to operate trucks in auxiliary service to supplement its present rail service. Mr. Maxwell said that the Pennsylvania was interested in the principle involved in these cases. He urged the commission to decide each case on its own facts, especially as to the limitations and restrictions.

The position of the railroads in opposing

### Pathe Features Streamliners in One-Reel "Short"

A 10-min., one-reel "short" motion picture film, showing the latest in railroad passenger service to be run-off in movie houses throughout the country, is shortly to be issued by Pathe News, Inc., New York. Shooting of scenes in railroad yards, round-houses, coaches, sleepers and club cars was completed several weeks ago, and the work of making up the finished film is now in process. Railroad men and "fans" who want to be sure that "Streamlined" has a showing at their neighborhood movie would do well to make such a recommendation to the manager thereof—so the producers inform your reporter.

the restriction was supported by Messrs. Heinley, Real and Krogman, who argued that the shippers needed the services that the railroads proposed to give in substitution for rail service.

### Status of R. F. C. Rail Loans

The monthly financial statement of the Reconstruction Finance Corporation as of May 31 shows loans to railroads (including receivers) of \$706,719,064 and repayments of \$240,625,684.

### Cook Will Head Mediation Board During Fiscal 1941

Continuing the policy of rotating its chairmanship annually, the National Mediation Board has designated George A. Cook to serve for the fiscal year beginning July 1. Otto S. Beyer has been chairman during the current fiscal year.

### Bill Would Eliminate Competitive Bidding

The Senate committee on expenditures in the executive departments has favorably reported S. 3974, a bill introduced by Senator Johnson, Democrat of Colorado, which would authorize the government departments to ship by motor truck without first calling for competitive bids.

### Would Bar Transportation of Prison-Made Goods

Representative Sumners, Democrat of Texas, has offered in the House H. R. 10101, a bill to make unlawful the transportation of convict-made goods in interstate commerce. Anyone violating this law would be subject to a fine of not more than \$1,000 or by imprisonment of not more than one year, or both.

### Lea Offers Bill to Clear up Short Line Claims

Chairman Lea of the House committee on interstate and foreign commerce has introduced in the House H. R. 10098, a bill which defines the term "deficit in railway operating income" as used in Section 204 of the Transportation Act, 1920. A subcommittee of the House interstate and foreign commerce committee has favorably reported out a similar bill, H. R. 4103 with amendments, and Chairman Lea's bill in-

corporates those amendments. The object of the bill is to facilitate certain claims by the short lines against the government for deficits incurred by them during federal operation of the railroads during the World War.

### House Passes Bill to Settle Railroad Debts

The House has passed H. R. 10014, a bill which would amend the Transportation Act of 1920 by permitting the Secretary of the Treasury to make compromise settlements of amounts due from the railroads on loans made under section 210 of that act. A similar bill is pending in the Senate.

### Report House Bill to Exempt Miners from Pension Act

The House committee on interstate and foreign commerce has reported favorably H. R. 9955, the bill introduced by Chairman Lea to exempt employees of railroad-owned and railroad-controlled coal mines from the Railroad Retirement Act and Railroad Unemployment Insurance Act. S. 4070, the companion bill introduced in the Senate by Senators Wheeler of Montana and Schwartz of Wyoming, has also been reported favorably, as noted in last week's issue.

### Fourteen N. & W. Employees to Get 50-Year Honor

W. J. Jenks, president, Norfolk & Western, will present diamond insignia to 14 veteran employees of the road who have been in service for 50 years or more at the ninth annual N. & W. Veterans Association convention to be held in Roanoke, Va., on June 22. The program will include an address by Judge R. V. Fletcher, vice-president and general counsel, Association of American Railroads, a vaudeville show and a "friendly hour" for swapping yarns.

### Seaboard Refused Exemption from Coal Act

Director Howard A. Gray of the Bituminous Coal Division of the Department of the Interior has issued an order denying an application of the receivers of the Seaboard Air Line for exemption of coal used by the railroad from the minimum price and market regulatory provisions of the Bituminous Coal Act.

The receivers of the railroad company sought exemption from minimum prices and other regulation under the Coal Act under a section of the law which exempts coal consumed by the producer. They contended, said Mr. Gray, that they were the producers of the coal mined by independent contractors from lands leased by the railroad. The contractors were supplying from 40 to 50 per cent of the railroad's coal needs as of 1936. They are Daniel H. Pritchard, operating in Logan and Mingo Counties, W. Va., and the Peerless Coal Co., operating in Wise County, Va.

"Having due regard for all relevant facts, it seems to me that the Seaboard Receivers are not 'engaged in the business of mining' the coal extracted from the leased mines," the Director said in his opinion accompanying the order. He added that it was a reasonable inference



that the receivers of the railroad company were trying to use a "flexible contrivance" in hope of establishing themselves as the normal producer of the coal used by the railroad "and thereby escape the price provisions of coal legislation, including the Act."

### N. J. Carriers Contest 1940 Taxes

Railroads in New Jersey, some of which have contested state tax assessments in the courts since 1931, have added the levies for 1940 to the list of tax obligations under argument before the state Board of Tax Appeals. The carriers contend that this year's aggregate tax of \$18,296,684 is based on over-assessment which fails to take account of reduced revenues accruing from the properties. A number of municipalities in which railroad taxes form the greatest single class of revenue have filed counter-claims to the effect that the assessments are too low.

### Georgia Employees Plan Big Old-Time Rally

The thousands of railroad employees in and about Atlanta, Ga., (one of the cities which railroads created) are talking about a huge all-day outing along the lines of the old-fashioned railroad workers' "rally", to be held in the big park on June 29. According to reports, the idea started quietly, was discussed in private circles and soon caught everybody's fancy.

The program, it is announced, will start with contests for the youngsters, then a barbecue, then two baseball games between employees of various roads, then bowling, music, a beauty contest, amateur boxing, and, finally, dancing in the "Casino."

### Constant-Interval Timetables to be Extended by the Long Island

The Long Island will extend constant-interval schedules to several of its branches when its summer timetables go into effect on June 23. In addition, 32 trains will be added to the daily schedule and 117 will augment the Sunday service to shore points.

Already in operation for several years on the Port Washington branch, interval schedules, or "synchronized service" will now be extended to trains serving Babylon, Hempstead, West Hempstead, Long Beach, Far Rockaway, and Rockaway Park, together with stations on each of these branches. The plan will be in effect on weekdays, except during commuting hours when more frequent train service is provided.

### Action on Rail Court Bill is Postponed

The House Judiciary committee has postponed indefinitely consideration of proposed railroad reorganization legislation. At the present time the committee has before it S. 1869, the Wheeler-Truman bill which was passed by the Senate at the last session, and H. R. 9447, a bill recently reported to the judiciary committee by Representative McLaughlin, Democrat of Nebraska, chairman of the subcommittee which conducted hearings at the last session.

The Wheeler-Truman measure would create a special railroad reorganization court, while the latter bill would utilize the present judicial system, but would remove from the Interstate Commerce Com-

### Stettinius Appoints Railroad Leaders on His Staff

The appointment of W. A. Harriman, chairman of the board of the Union Pacific, to act as a liaison officer between the raw materials section of the National Defense Commission and the transportation section was announced on June 13 by Edward R. Stettinius, Jr., former chairman of the board of the United States Steel Corporation, who heads up the raw materials section. Mr. Harriman, it was explained, would transmit to Ralph Budd, president of the Chicago, Burlington & Quincy and the transportation member of the National Defense Commission, any requests that Mr. Stettinius might have for transportation.

At the same time Mr. Stettinius also appointed William C. Bower, vice-president of the New York Central in charge of purchases and stores, to the position of purchasing agent for the raw materials section.

mission its present power to determine the legal priorities in the allocation of new securities.

### Lea Corrects Previous Resolution

Chairman Lea of the House committee on interstate and foreign commerce has introduced in the House H. J. Resolution 569 which would authorize payments to railroads for the work of bringing up to date the service records of prospective applicants for annuities under the Railroad Retirement Act. This resolution replaces one noted in last week's issue which was introduced by Mr. Lea and bore the number 560. The new version incorporates changes made by the Senate interstate commerce committee when it ordered a favorable report on a similar resolution introduced in the upper house by Senator Johnson, Democrat of Colorado.

### Senate Commerce Committee Cuts Rivers and Harbors Bill

Acceding to a request of President Roosevelt, the Senate commerce committee has favorably reported H. R. 9972, the "national defense" rivers and harbors authorization bill, but has reduced the House figure of \$24,823,000 by \$6,131,000 through the deletion of eight projects. In a letter to Senator Bailey, Democrat of North Carolina and chairman of the commerce committee, President Roosevelt asked that eight projects be deleted "due to the necessity at this time of restricting non-military activities of the War Department in the interest of military preparedness."

The present bill was introduced by Representative DeRouen, Democrat of Louisiana, as a national defense measure after President Roosevelt had vetoed the \$109,985,450 rivers and harbors bill (H. R. 6264) with a promise to approve authorizations for projects "of national defense value."

### Freight Car Loading

Loading of revenue freight for the week ended June 15 totaled 712,445 cars, the

Association American Railroads announced on June 20. This was an increase of 9,874 cars, or 1.4 per cent, over the preceding week, an increase of 78,490 cars, or 12.4 per cent, over the corresponding week of last year, and an increase of 156,926 cars, or 28.2 per cent, above the same week in 1938.

As reported in last week's issue, loading of revenue freight for the week ended June 8, totaled 702,571 cars, and the summary for that week, compiled by the Car Service Division, A. A. R., follows:

Revenue Freight Car Loadings			
For Week Ended Saturday, June 8			
Districts	1940	1939	1938
Eastern .....	148,748	133,594	116,758
Allegheny .....	149,945	121,117	100,566
Pocahontas .....	47,945	42,466	34,179
Southern .....	97,965	92,427	84,265
Northwestern ..	114,477	99,074	78,134
Central Western ..	98,966	99,192	94,851
Southwestern ..	44,525	42,185	45,101
Total Western Districts .....	257,968	240,456	218,086
Total All Roads	702,571	630,060	553,854
Commodities			
Grain and grain products .....	28,161	34,286	30,184
Live stock .....	10,658	9,760	11,502
Coal .....	118,244	95,691	82,279
Coke .....	9,760	5,384	3,931
Forest products ..	34,338	29,949	26,036
Ore .....	66,078	43,504	24,921
Merchandise l.c.l.	148,260	153,089	147,995
Miscellaneous ..	287,072	258,397	227,006
June 8 .....	702,571	630,060	553,854
June 1 .....	639,126	563,309	502,617
May 25 .....	687,490	623,542	562,076
May 18 .....	678,971	612,888	545,789
May 11 .....	680,657	554,644	541,808
Cumulative Total, 23 Weeks ...	14,713,528	13,329,907	12,527,445

In Canada.—Carloadings continued to rise, totaling 57,499 for the week ended June 8, as compared with 42,497 for the corresponding week last year and 56,459 in the preceding week—according to the compilation of the Dominion Bureau of Statistics.

	Total Cars Loaded	Total Cars Rec'd from Connections
Total for Canada:		
June 8, 1940 .....	57,499	24,359
June 1, 1940 .....	56,459	23,051
June 25, 1940 .....	49,919	24,839
May 25, 1939 .....	42,497	18,931
Cumulative Totals for Canada:		
June 8, 1940 .....	1,127,260	565,619
June 10, 1939 .....	980,915	482,658
June 11, 1938 .....	1,014,464	486,465

### I. C. C. Takes No Stand on Pipe Line Bill

The Interstate Commerce Commission has taken a neutral position on the question of whether S. 3753, the bill introduced by Senator Johnson, Democrat of Colorado, which would make the acquisition of a certificate of convenience and necessity a condition precedent to the construction of new pipe lines or the extension of existing lines, should be enacted. Chairman Eastman, acting as chairman of the commission's legislative committee, has advised Senator Johnson's subcommittee, which has been holding hearings on the bill, that no evidences of an important demand for such legislation has been brought to the attention of the commission.

"The basic principle underlying the certificate of public convenience and necessity," said the chairman, "is that the nation shall not be burdened with having a surplus transportation plant which it must support, and, as a subordinate consideration, that those who have gone into the transportation field shall not have their

investments and a fair return thereon imperiled by unnecessary competition.

"Whether or not there is a real public need for requiring certificates of convenience and necessity from this commission prior to the extension or construction of pipe lines is a question which we have not explored. No demand for such legislation has been brought to our attention, except so far as the introduction of S. 3753 would indicate such a demand, and we have had no opportunity of learning reasons urged in support of the bill by its proponents."

### I. C. C. Reopens Hours of Service Cases

Acting on the request of the American Trucking Associations, Inc., the Interstate Commerce Commission has reopened Ex Parte MC-2 and Ex Parte MC-3 and has assigned these cases for further hearing on July 16 at Chicago, before Examiner R. W. Snow. The commission's announcement states that the cases are reopened solely for the purpose of determining what employees, if any, other than drivers, perform services which affect the safety of operation of vehicles in interstate or foreign commerce.

For the purpose of the hearing, the announcement goes on, the common, contract and private carrier dockets are to be combined. If the commission finds that any employees, other than drivers, have duties which affect the safety of operation, it will hold a further hearing to determine what qualifications and rules for maximum hours of service should be promulgated.

The petition of the A. T. A. was the outgrowth of a recent decision of the United States Supreme Court in which the Court upheld the contention of the commission that its jurisdiction to regulate hours of service of motor carrier employees was limited to those employees whose activities affected the safety of operation.

### Burlington Operates 17 Stainless Steel Cars in Single Train

Seventeen stainless steel cars and a 4,000-hp. two-unit, stainless steel Diesel-electric locomotive were used by the Chicago, Burlington & Quincy on June 16 to carry 500 Kiwanians from Chicago to Minneapolis, Minn., for their International convention in that city. According to the Burlington, this is the longest stainless steel

train ever operated. The train, which was operated as the second section of the Morning Twin Cities Zephyr, covered the 437 miles in seven hours. Ten of the cars comprising the train had just been delivered by the builder.

### Cancellation of Rule 23 is Held Up

The Interstate Commerce Commission has suspended from June 15, 1940, until January 15, 1941, proposed schedules which would cancel Rule 23 which says that the railroads will not perform split deliveries. As pointed out in the *Railway Age* of March 30, page 595, the cancellation of this rule was recommended by the so-called Merchandise Committee of the Association of American Railroads. At that time the committee said that the railroads should go in for split deliveries and recommended changes in Rule 14 to cover the matter.

In a petition recently filed with the commission the committee said that "the cancellation of this rule has a purely negative effect for the reason that the rule as published in the Classification consists merely of direction to railroad agents as to service which they *must not* perform. Rule 23 has no place in a railroad Classification and should have been eliminated many years ago."

### Grade Crossing Accidents Increase

An increase in the number of highway-railroad grade crossing accidents with resulting casualties took place in the first two months of 1940 compared with the same period last year, according to the Safety Section of the Association of American Railroads. In January and February of this year there were 850 such accidents, compared with 660 in the corresponding period in 1939; fatalities totaled 351 compared with 256 in the same period last year, or an increase of 95. Persons injured totaled 1,037 in the first two months of 1940, compared with 802 in the same months one year ago, or an increase of 235.

In January there were 484 highway-railroad grade crossing accidents, or an increase of 120 compared with January, 1939. In those accidents 197 persons lost their lives, compared with 137 one year ago, and 583 persons were injured compared with 423 in January last year. In February, 1940, there were 366 accidents, an increase

of 70 compared with the same month the year before. Fatalities in February totaled 154, an increase of 35 compared with February, 1939. Persons injured in highway-railroad grade crossing accidents in February, 1940, totaled 454, an increase of 75 compared with February the preceding year.

### I. C. C. Merges Its Suspension Boards

The Interstate Commerce Commission, on June 14, announced the merger of its board of suspension in the Bureau of Motor Carriers and its special board of suspension into the board of suspension in the Bureau of Traffic. The merged board will deal with all suspension matters arising under both the rail and motor carrier sections of the interstate commerce act. The new board will consist of a chairman and five other members, with two members of the motor carrier suspension board becoming members of the merged board.

The commission's order also provides that one additional member shall be selected each from the personnel of the Bureau of Traffic and the Bureau of Motor Carriers; and that until further order the functions of the sixth member of the reorganized board shall be exercised by Assistant Director Brown of the Bureau of Traffic as a voting member in lieu of appointment of a sixth member.

### New Rockets in Service June 30

Two more streamlined, Diesel-electric passenger trains will be added to the Rocket fleet of the Chicago, Rock Island & Pacific on June 30, when the Kansas City sections of the Rocky Mountain Rockets will be placed in service between Kansas City, Mo., and Colorado Springs, Colo. This overnight train will cover the 629 miles in 11 hr. 35 min. westbound and 11 hr. eastbound. It will leave Kansas City at 10 p.m. and will arrive at Denver at 8:25 a.m. and Colorado Springs at 8:35 a.m., while returning it will leave Colorado Springs at 12:45 p.m. and Denver at 1 p.m., and will arrive in Kansas City at 12:50 a.m. The new Rockets will each consist of a ten-roomette, five bedroom Pullman sleeping car, a deluxe reclining chair; and a combination baggage, express and railway postoffice car.

At Belleville, the westbound Kansas City section will be consolidated with the Rocky Mountain Rocket from Chicago to form a nine-car train with 3,000 hp. Diesel units. Eastbound the Kansas City section will separate from the train at Belleville.

### I. C. C. Reopens Freight Forwarder Probe

The Interstate Commerce Commission has reopened its freight forwarder investigation, Docket No. 27365, for further hearing concerning the lawfulness of the rates, charges, rules, regulations, and practices of the respondent rail carriers affecting the loading and unloading of carload freight of the freight forwarders at the carriers' freight stations at Chicago and St. Louis.

The order also states that the scope of the proceeding will be broadened to embrace the rates, charges, rules, regulations, and practices of the rail carriers



The 19 Unit Train Photographed While Moving at 80 to 90 m. p. h.

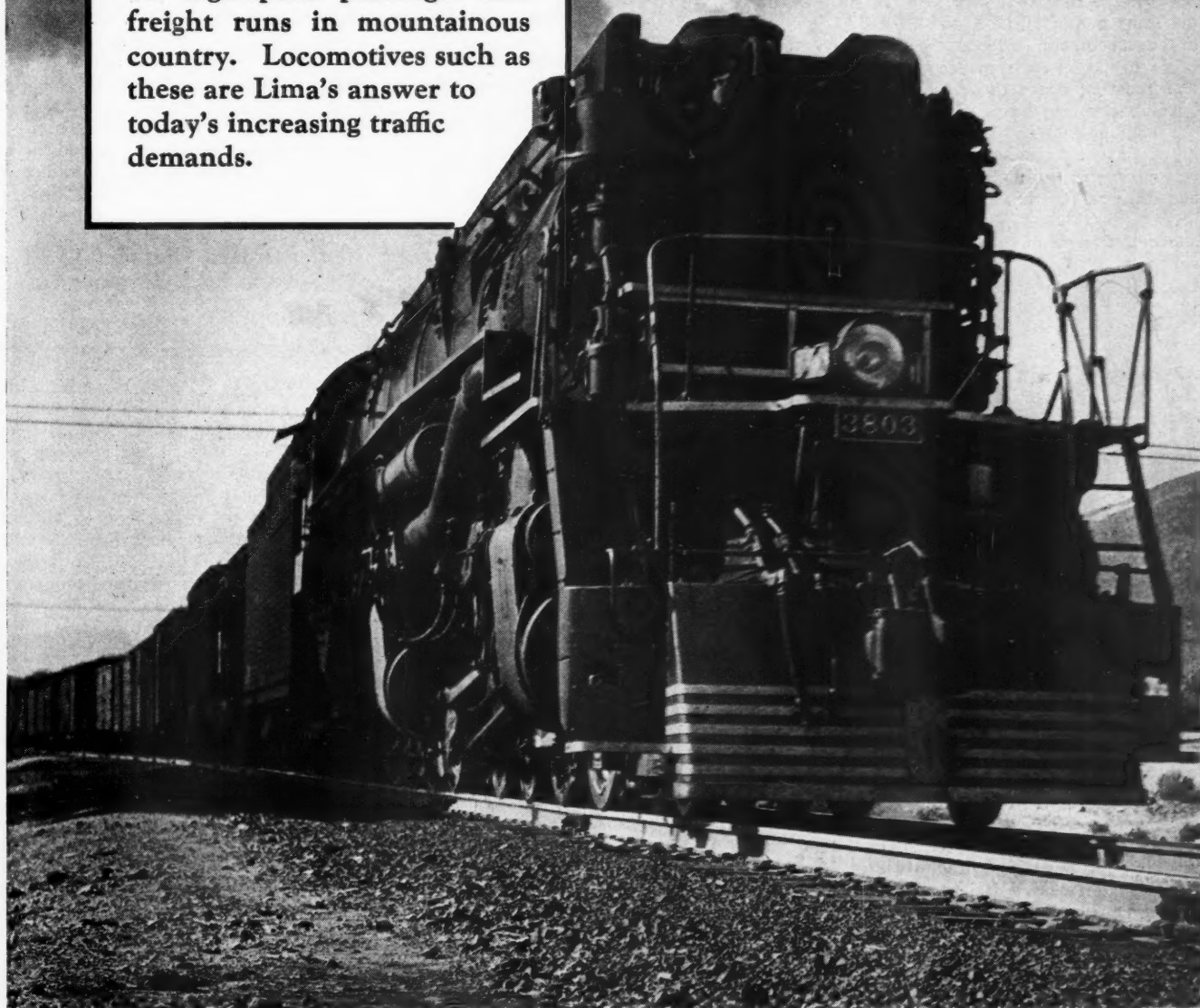
Continued on next left-hand page



# NEW!

.....and it's doing a grand job

The new 2-8-8-4 type steam locomotive illustrated, is one of twelve recently delivered by Lima Locomotive Works to the Southern Pacific for use on high-speed passenger and freight runs in mountainous country. Locomotives such as these are Lima's answer to today's increasing traffic demands.



*Photo courtesy Southern Pacific Company*

LIMA LOCOMOTIVE WORKS



INCORPORATED, LIMA, OHIO

affecting the loading and unloading of carload freight of shippers, other than freight forwarders, at the freight stations in Chicago and St. Louis.

After pointing out that the hearing will be held on July 15 at Chicago before Examiner Trezise, the order goes on to say that at this hearing the respondents will be expected to introduce evidence to show the cost of loading and unloading of all carload freight at each of their freight stations at the two points, Chicago and St. Louis.

### May Operating Revenues 12.1 Per Cent Above May, 1939

Preliminary reports from 88 Class I railroads, representing 82 per cent of total operating revenues, made public by the Association of American Railroads, show that those railroads, in May, 1940, had estimated operating revenues amounting to \$278,046,219 compared with \$248,114,680 in the same month of 1939, and \$379,817,279 in the same month of 1930. Operating revenues of those roads in May, 1940, were 12.1 per cent above those for May, 1939, but 26.8 per cent below May, 1930.

Freight revenues of the 88 Class I roads in May, 1940, amounted to \$229,245,283 compared with \$199,421,448 in May, 1939, and \$292,653,804 in May, 1930. Freight revenues in May, 1940, were 15 per cent above the same month of 1939, but 21.7 per cent below the same month in 1930. Passenger revenues in May, 1940 totaled \$24,831,467 compared with \$26,749,890 in May, 1939, and \$50,981,735 in May, 1930. For the month of May, 1940, they were 7.2 per cent below the same month in 1939, and 51.3 per cent below the same month in 1930.

### Pennsylvania Establishes Merchandise Service Bureau

To provide additional channels of information and assistance for the convenience of shippers and consignees of less-than-carload freight over its lines, the Pennsylvania has established merchandise service bureaus at 50 cities throughout the system. The purpose is to make available to patrons a personal supplementary service to supply answers to such questions as, where is my shipment now?; when will it arrive?; how shall I route it to give my customer quickest delivery?

In handling such inquiries the merchandise service bureaus will extend to the less-than-carload patrons services of much the same type as have heretofore been rendered in expediting and tracing the movement of carload freight. In addition the bureaus will place expert traffic information and advice at the disposal of patrons who ship only occasionally and may not be familiar with routings and similar details.

In the internal operation of the railroad, the bureaus will serve to co-ordinate the various activities involved in the handling of less-than-carload freight, including pick-up and delivery, through merchandise cars and motor truck, station and transfer operations, to the end that all merchandise shipments will receive prompt and satisfactory movement from origin to destination.

The cities selected as the locations of

the merchandise service bureaus are strategically located throughout the railroad's territory so that the new supplementary service will be conveniently available to patrons everywhere.

### House Committee Considers Unemployment Measure

Hearings have been held during the past week by the House committee on interstate and foreign commerce on H. R. 9706, Representative Crosser, Democrat of Ohio's bill which would liberalize benefits under the Railroad Unemployment Insurance Act. The same witnesses for the railroad labor unions, the Railroad Retirement Board, and the carriers who testified before the Senate interstate commerce committee on S. 3920, details of which were given in the *Railway Age* of May 18, page 870, made their appearances before the House committee, and their testimony followed the same general lines as that before the other committee.

Among those appearing thus far are Charles M. Hay, counsel for the Railway Labor Executives Association; T. C. Cashen, president of the Switchmen's Union of North America; Dr. J. H. Parmelee, director of the Bureau of Railway Economics of the Association of American Railroads; and Murray W. Latimer, chairman of the Railroad Retirement Board. At the date of this writing hearings had been postponed until the call of the chairman.

At the same time Representative Reece, Republican of Tennessee, has introduced (by request) a bill, H. R. 10082, which is a companion measure to the Gurney bill which the Senate committee refused to adopt when it reported out railway labor's bill, S. 3920. This bill represents the views of the A. A. R.; would liberalize benefits under the Act; and would establish a merit rating basis for the railroads so that the three per cent tax now paid by the carriers could be reduced if their employment records remains as satisfactory as it has been during the past few years.

### Senate Committee Cuts Grade Crossing Authorization

Senator Hayden, Democrat of Arizona, from the committee on post offices and post roads, has favorably reported H. R. 9575, the bill containing authorizations for each of the fiscal years 1942 and 1943 for federal aid for highways. As the measure passed the House it authorized the sum of \$93,750,000 for each of the fiscal years, but the Senate committee increased this sum to \$100,000,000 a year.

Because of the fact that it had been estimated that on January 1, 1941, there would remain from previous appropriations for grade crossing elimination the sum of \$30,000,000 not yet used by the states, the committee decided to reduce the \$37,500,000 a year amount for this purpose approved by the House to \$20,000,000 a year for each of the two years.

The committee also recommended that language be inserted in the bill to make available for matching by the states for secondary-road purposes grade-crossing elimination funds apportioned to a state and

remaining available after substantially all of the grade crossings on the state highway system of the state have been eliminated.

A new section was added to the bill by the committee to allow federal funds to be available for paying the engineering cost incurred by state highway departments in the surveys and preparation of plans for roads of strategic importance when the construction of such highways is ordered by the Federal Works Administrator upon the request of the Secretary of War, the Secretary of the Navy, or other authorized national defense agency. The committee said that it felt that the federal government was justified in paying the cost of such engineering work rather than imposing the burden upon the states since such roads would be for national military use and would be in no sense local roads.

Because the committee is convinced the Reconstruction Finance Corporation now has the power to make loans to states and municipalities for the purpose of purchasing highway rights-of-way, it recommends that section 12 of the House bill giving the R. F. C. such authority be stricken from the measure. The report goes on to say that testimony before the committee revealed that the R. F. C. is willing to make loans of this type "where they are predicated on a sound financial basis."

### Court Orders Rutland To Pay \$565,000 in Back Pay and Taxes

The receiver for the Rutland was ordered on June 11 by Judge J. P. Leamy of the federal district court at Rutland, Vt., to pay a total of \$564,899, comprising employees' wages withheld by deduction and reduction since January 1, 1939, and federal railroad retirement and unemployment taxes applicable thereto. To pay this, the receiver has only \$432,270 in working capital, resulting in a shortage of \$132,629. This means that steps may shortly be taken by bondholders of the road to foreclose mortgages on the property and reorganize.

The district court decision follows two mandates recently received from the Circuit Court of Appeals at New York which reversed two orders by former District Judge H. B. Howe directing the receiver to withhold and reduce wages, respectively, (see the *Railway Age* for February 17, page 341). The United States Supreme Court refused to review the railroad's appeal from higher court's decisions. The reversed rulings of Judge Howe consisted of an order, effective July 30, 1938, directing the receiver to deduct wages, the withheld portion to be paid back when earnings permit and not to be a prior lien on the property, and an order effective July 1, 1939, authorizing a reduction in wages; both the deduction and reduction were to be based on a sliding scale averaging 17 per cent.

Although wages were withheld effective July 30, 1938, the receiver has already paid back wages withheld between that date and December 31, 1938, so that the indebtedness to employees which must be paid over under Judge Leamy's order dates back only to January 1, 1939. Basic rates of pay were resumed on May 23, 1940, following the Supreme Court ruling of May



20. The sum which the receiver must pay, therefore, is made up of the following:

Withheld wages for January 1, 1939 to June 30, 1939 .....	\$188,377
Taxes for the same period .....	10,832
	\$199,209
Reduced portion of wages for July 1 to May 23, 1940 .....	\$345,449
Taxes for the same period .....	20,241
	\$365,690
Total .....	\$564,899

Judge Leamy also instructed the receiver to pay employees after May 23, 1940, full wages in accordance with rates prescribed in written agreements "without any deduction therefrom or reduction thereof unless and until such agreements are modified or terminated by agreement or as provided by law." The latter phrase probably refers to the recent action of the receiver requesting the National Mediation Board to resume mediation concerning his notice of December 9, 1938, announcing a reduction of wages.

### Railroads Ready to Aid in Defense; No Government Rule Seen by Budd

The railroads of the United States are ready to meet any transportation demands that will arise during the evolution of our defense program or from an increase in regular commercial traffic, according to J. J. Pelley, president of the Association of American Railroads, at a meeting of the Association's member roads held at Chicago on June 18 for the purpose of discussing the equipment and transportation situation. Ralph Budd, president of the Chicago, Burlington & Quincy, and a member of the National Defense Committee, told the meeting that railroad management will be permitted to do its share in the national rearmament program without interference from the federal government. "The belief in Washington now is," he said, "that the railroads under private ownership and operation can do their job more effectively than if there was direct control over them. The confidence shown in the railroads by the government calls for a recognition by the railroads of their own responsibility in co-operating in the defense program."

Mr. Budd said that the railroads will need the co-operation of all shippers in estimating, so far as possible, the demands that the latter will make on the road. He explained that in his position as the railroad representative on the National Defense Committee he has the aid of the Car Service division of the Association and that the existence of this division makes it unnecessary for him to set up an extensive organization of his own. Mr. Budd has appointed Karl W. Fischer, land and tax commissioner of the Burlington, his assistant in Washington.

A survey submitted at the meeting showed that there are now in operation approximately 36,000 more serviceable freight cars than there were at the peak of business in October, 1939, and that by October 1 of this year there will be an increase of 148,000 serviceable freight cars over the October, 1939, figure. In October, 1939, the railroads handled a maximum of 860,000 loaded cars a week, with an average daily surplus of more than 60,000 cars.

It also showed that on June 1, 1940, the railroads had 35,784 more serviceable

freight cars than they had at the peak of business in October of 1939, and had on order 15,039 new freight cars. In addition, they were ready to place orders for 3,425 more new freight cars, making a total of 18,464 cars. This is approximately twice the number on order a year ago. All these new cars, together with 13,000 other cars which are to be rebuilt this summer, will be in operation in advance of the usual fall increase in business. In addition to new and rebuilt cars, the repair program undertaken by the railroads will add not less than 80,674 serviceable cars to the supply available for meeting transportation demands this fall.

With the repair of such equipment and the addition of the new cars now on order it is estimated that the railroads will have by October 1, 1940, 147,907 more serviceable freight cars than were available at the same time last year. Of the total number of freight cars which will be in service by October 1 of this year, approximately 210,000 will be less than five years old.

"On many occasions," Mr. Pelley said, "the railroads have demonstrated their ability to meet sharp increases in transportation demands. This was proved again when the railroads, in October, 1939, handled 55 per cent more business than they had done in May of that year, and did so without difficulty, delay or congestion. Partly, this was due to the fact that railroad plant, equipment and methods have been greatly improved both in capacity and efficiency during the past twenty years; and partly it was due to the splendid co-operation of shippers and receivers of freight through prompt loading and unloading of cars, thereby adding greatly to the transportation capacity of the railroads. The best control of transportation is the ordinary, every-day business practice of shippers who do not order more cars forwarded than can be unloaded promptly at destination. In the light of these facts there is no doubt of the ability of the rail carriers to meet any increase in transportation demands, whether it comes from the development of the preparedness program or from an increase in commercial business."

### Retirement Board Issues New Publication

The Railroad Retirement Board has issued the first copy of its Monthly Review which will replace the Weekly Review which has been published for several months. In the foreword, signed by the three board members, Murray Latimer, Lee M. Eddy, and M. R. Reed, it is stated that the purpose of the publication is to provide current information concerning the operations under the Railroad Retirement and Railroad Unemployment Insurance Acts, primarily for employers and employees covered by those acts and for their associations and organizations.

It is further pointed out that the publication will contain monthly statistics of operation under each act, explanations of the regulations and rulings made under both acts, digests of the opinions of the general counsel concerning various legal questions arising under the acts, notifications of changes in the Board's administra-

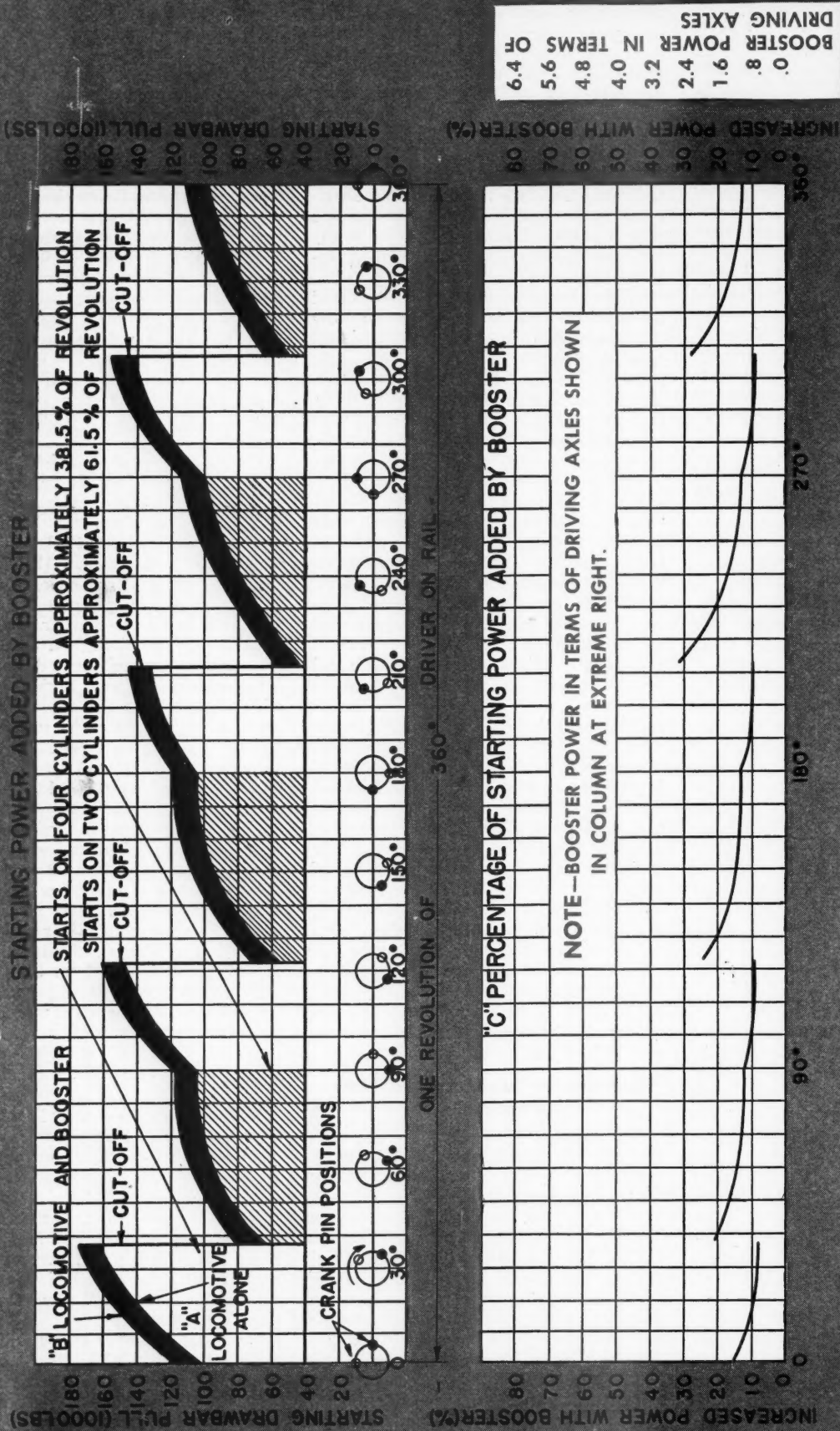
tive organization and key personnel, special articles covering the more important phases of the operation of railroad social insurance, and other material "relevant to a better understanding of the Board's tasks and activities."

After declaring that through the medium of the Monthly Review it will, in effect, be making available on a monthly basis much of the material which in the past has been furnished only once a year in the annual report, the Board observes that "In this way it should serve not only to provide railroad employers, railway labor organizations and workers, with a better knowledge of general operations of the acts which affect them, but should also help to acquaint them more completely with their rights and responsibilities under the acts. The number of questions that are being continually addressed to the Board concerning its operations show that there is a demand for a publication of this kind."

The first issue of the Monthly Review reveals that total benefit payments certified to the Treasury under the Railroad Retirement Act from the beginning of operation to April 30, 1940, amounted to \$288,860,259. Of the total \$196,620,140 or 68.1 per cent was for employee annuities, \$85,466,637 or 29.6 per cent for pensions, \$3,753,710 or 1.3 per cent for survivor and death benefit annuities, and \$3,019,770 or one per cent for lump-sum death benefits.

Unemployed railroad workers who applied for benefits under the Railroad Unemployment Insurance Act totaled 202,328 during the first 10 months of operation from June 26, 1939, to April 26, 1940. Of these 148,193 were certified for benefit payments totaling \$12,659,385. The average amount per certification (covering periods of 15 days in which there were more than seven days of unemployment) varied from a low of \$14.60 in September to a high of \$15.34 in November. The number certified for the maximum amount of benefits to which a worker is entitled in the course of one year, that is, from \$140 to \$240, totaled 19,392, or about 13 per cent of the total number of beneficiaries, according to the Review.

THE CANTON-KOWLOON RAILWAY has been dismembered by the Japanese invasion of China and is now being operated in separate sections by the Japanese and the British, respectively. The railroad, built by British capital to run between Canton and Kowloon (connected by ferry to Hong Kong, the British port), was one of high grade construction and maintenance standards. It was one of the busiest pieces of railway in Asia but it has not been operated through its entire length since the fall of Canton in 1938. The British are operating the section within their territory on a curtailed basis while the section between Canton and Sheklung, a distance of 40 mi., is under control of the Japanese army and is being used primarily for military purposes. No trains have been run beyond Sheklung to the British border since October, 1938, and the tracks have been removed for several miles, according to reports.



# THE BOOSTER\* ON MALLETT LOCOMOTIVES



**A**S in the two-cylinder locomotive, a Mallet locomotive's starting power is greatly increased with The Locomotive Booster. The chart on the opposite page is based on the two engines of the 2-8-8-4 type Mallet locomotive being synchronized. Under this condition, the locomotive will give its maximum and minimum starting drawbar pull. When the engines are not synchronized, the starting drawbar pull reflects the starts made on three cylinders as well as those made on two and four cylinders. While in the unsynchronized state the minimum starting drawbar pull will be slightly greater than that of the synchronized position; it must be taken into consideration that starts with

three cylinders can only occur for approximately 5% of the driver revolution. Further, in the unsynchronized position, the maximum starting drawbar pull will be less than that of a synchronized locomotive.

In the locomotive selected, starts on only two cylinders occur 61.5% of the driver revolution. During the remaining 38.5% of the revolution the power of all four cylinders is available. The added starting drawbar pull of the Booster is 13,600 lb. As will be noted from the chart, at  $212\frac{1}{2}$  degrees of the locomotive cranks, this 13,600 lb. increases the locomotive's starting drawbar pull by 32.1%. In this instance, the increased power of the Booster is equivalent to that produced

through 2.6 driving axles. A comparable increase is realized at each of the other three crank pin positions where minimum starting drawbar pull is obtained.

The 13,600 lb. drawbar pull of the Booster represents 64% of the minimum starting power for one of the two engines of the locomotive. The inclusion of the Booster on this 2-8-8-4 type Mallet makes it possible to produce approximately the same minimum starting power obtainable with a 2-10-10-4 type Mallet without a Booster.



(\*Trademark Registered United States Patent Office)



# FRANKLIN RAILWAY SUPPLY COMPANY, INC.

NEW YORK

CHICAGO

MONTREAL

# BETTER COMBUSTION

*See it at the New York World's Fair*



If you are at the New York World's Fair see the 6-4-4-6 superpower, high-speed steam locomotive of the American Railroad

Exhibit. The two photographs below illustrate the positioning of the Security Circulators in this locomotive.

**Improved Arch Support for  
the largest fireboxes**



**Adapted to any type of  
locomotive**



**Reduced honeycombing, flue  
plugging and cinder cutting**



**Improved circulation in side  
water legs**

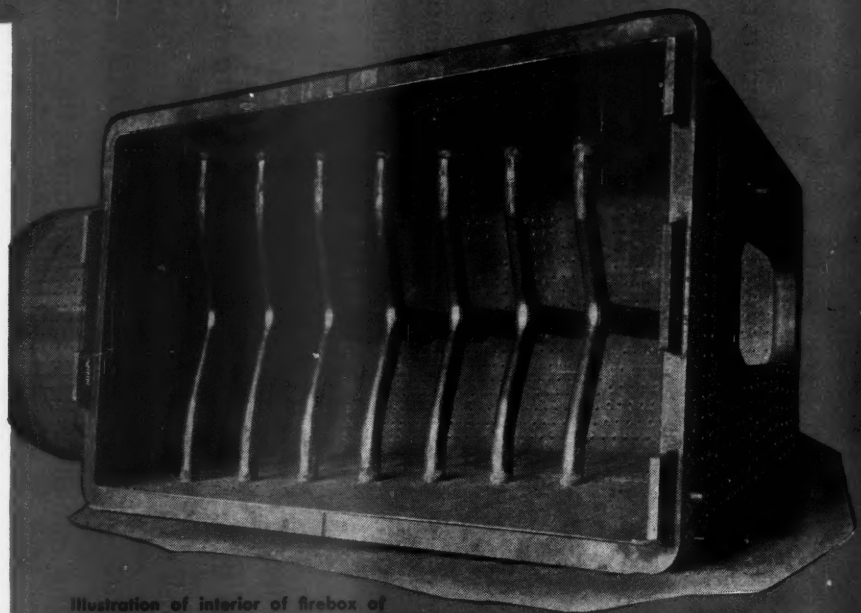


Illustration of interior of firebox of American Railroad's 6-4-4-6 locomotive, showing construction of Security Circulators.

**AMERICAN ARCH**  
*Security Circulator Division*

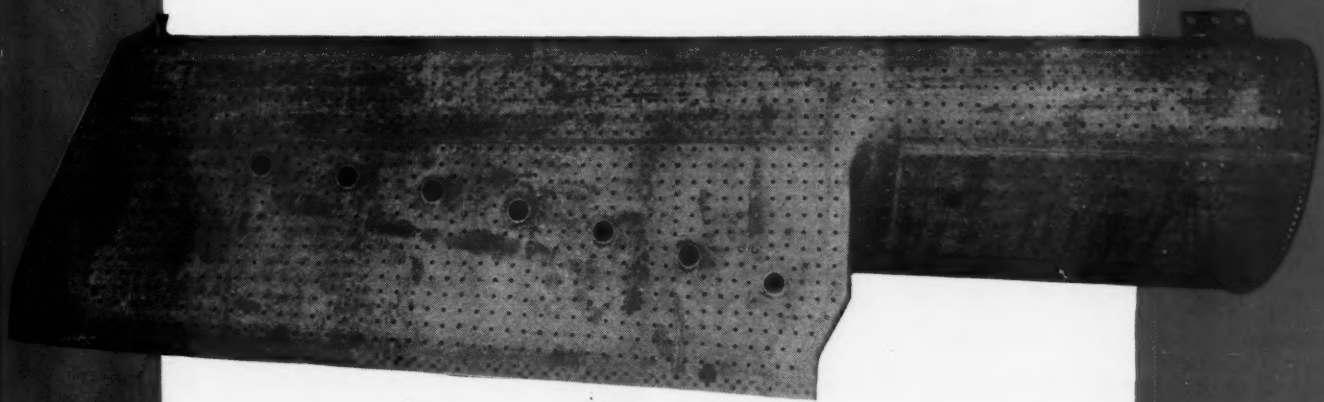


# for YOUR LOCOMOTIVES

**T**HE demand for greater boiler horsepower brought about the larger firebox, which in turn presented a problem in arch brick support. To meet this condition The American Arch Company, in its continuous study for the improvement of combustion, developed the Security Circulator. While the original object of improved support was achieved, many other benefits have accrued.

Notable among these is the reduced cost of maintaining the arch as compared with other forms of arch brick support. Boiler maintenance is also lessened due to the reduction of honeycombing and cinder cutting. As for the Security Circulator itself, experience has shown a gratifyingly low maintenance cost.

The 524 Security Circulators, that have been installed on 105 locomotives during the last five years, have attained a record of nearly 4,000,000 engine miles of service, in which their performance has been thoroughly proved.



Exterior view of firebox of American Railroad's 6-4-4-6 locomotive showing positioning of Security Circulators.

**COMPANY, INC.**  
NEW YORK CHICAGO

## Equipment and Supplies

### LOCOMOTIVES

THE MITSUI & Co., New York, have ordered six locomotives of the 2-8-2 type from the American Locomotive Company, for service in Korea.

### FREIGHT CARS

THE CHESAPEAKE & OHIO is inquiring for 900 50-ton 40-ft. and 100 50-ton 50-ft. box cars and 100 caboose cars.

THE MOBILE & OHIO has ordered 250 hopper cars from the Pullman-Standard Car Manufacturing Company.

THE MINNEAPOLIS, ST. PAUL & SAULT STE. MARIE has ordered 400 40-ft. 6 in. box cars and 100 50-ton automobile box cars from the Pullman-Standard Car Manufacturing Company.

THE UNION TANK CAR COMPANY has been authorized by the Interstate Commerce Commission to construct 100 fusion-welded tank cars for experimental service in the transportation of petroleum products.

THE DETROIT, TOLEDO & Ironton has ordered 50 covered hopper cars of 70 tons' capacity from the Greenville Steel Car Company. Inquiry for this equipment was reported in the *Railway Age* of June 15, page 1076.

THE MONSANTO CHEMICAL COMPANY and the American Car & Foundry Company have been authorized by the Interstate Commerce Commission to construct one tank car with riveted aluminum alloy tank for experimental service in the transportation of 95 per cent nitric acid. The commission's action was by Commissioner J. Monroe Johnson in another of the Special Series A orders in No. 3666.

THE GULF, MOBILE & NORTHERN has ordered 1,000 box car bodies, 40 ft. 6 in. long and of 40 tons' capacity from the American Car & Foundry Company. The railroad company will furnish the trucks for these cars. An order for 250 hopper cars of 50 tons' capacity was placed with the Pullman-Standard Car Manufacturing Company. Inquiry for this equipment was reported in the *Railway Age* of March 2, page 426.

### IRON AND STEEL

THE ILLINOIS CENTRAL has ordered 9,000 tons of rails, placing 4,500 tons with the Tennessee Coal, Iron & Railroad Company and 2,250 tons each with the Inland Steel Company and the Carnegie-Illinois Steel Company.

### MOTOR VEHICLES

THE UNION PACIFIC STAGES, Omaha, Nebr., has received delivery of two 37-passenger buses from the Twin Coach Company.

THE BRITISH COLUMBIA ELECTRIC RAIL-

WAY COMPANY, Vancouver, B. C., has received delivery of seven 31-passenger buses from the Twin Coach Company.

THE PACIFIC ELECTRIC RAILWAY COMPANY (Southern Pacific subsidiary), Los Angeles, Cal., has received delivery of twenty-one 41-passenger buses from the Twin Coach Company.

## Supply Trade

The Ryan Devices Company, Chicago, has moved its offices to 332 South Michigan boulevard.

Murray-Baker-Frederic, Inc., New Orleans, La., has been appointed agent for the Allegheny Ludlum Steel Corporation, Pittsburgh, Pa., for Louisiana, a portion of east Texas and the southern portion of Arkansas.

Elastic Stop Nut Corporation has moved its general office from Elizabeth, N. J., to its new plant at 2332 Vauxhall Road, Union, N. J., a suburb of Newark. This corporation's Houston, Texas, office has been moved to The Merchants and Manufacturers building.

### OBITUARY

Harry S. Banghart, assistant secretary of the American Locomotive Company at New York, died on June 2, from a heart attack at his home in East Orange, N. J. He was born on November 15, 1876, at Phillipsburg, N. J. After serving as a telegraph operator on the Lehigh & Hudson River for four years, he went with the Delaware, Lackawanna & Western as telegraph operator and agent at Bloomfield, N. J. In June 1902 he left railroad work



Harry S. Banghart

to enter the service of the Railway Steel Spring Company, becoming assistant treasurer in 1908, and in 1919 was made treasurer of that company. Subsequent to the merger of the Railway Steel Spring company with the American Locomotive Company in 1926, Mr. Banghart was appointed assistant treasurer of the latter company and since 1930 he served as assistant secretary.

## Construction

CHESAPEAKE & OHIO.—Contracts have been awarded the Ogle Construction Company, Chicago, for the construction of a reinforced concrete locomotive coal and sand station at Charlottesville, Va., which will have a capacity of 300 tons of coal and 175 tons of sand, and for a reinforced concrete 50-ton locomotive coal and sand handling plant at Covington, Ky.

ERIE.—The Pennsylvania Public Utility Commission has approved a petition of the Department of Highways for a modification of the commission's order which provides for the construction of a highway crossing below grade at a point in Shohola Township, Pa., about 550 feet southeast of the Shohola station of the Erie where State Highway Route No. 220, as relocated, crosses the two main tracks and right of way of the railroad company. The estimated cost of constructing the improvement in accordance with the revised plan totals \$356,550, and includes the following items: New railroad underpass, \$55,615; railroad work, \$36,550; relocated highway Pennsylvania portion, \$33,825; relocated highway New York portion, \$6,160; and construction of bridge over river, \$224,400. All work is to be fully completed by November 1, 1941.

GREAT NORTHERN.—Bids will be received until June 26 by the U. S. Bureau of Reclamation, Coulee Dam, Wash., for the relocation of a total of 22.8 miles of the Great Northern between Kettle Falls, Wash., and Marcus; Marcus and Boyds, Wash.; and Marcus and Williams, Wash. The principal quantities in this work will consist of approximately 2,500,000 cu. yd. of excavation, 5,200 cu. yd. of concrete, 56,000 cu. yd. of rip rap, 59,000 cu. yd. of ballasting, placing 281.5 tons of reinforcement bars, laying 12,920 lin. ft. of 8 to 30-in. diameter corrugated metal pipe, driving 1,120 lin. ft. of steel bearing piles, driving 3,475 lin. ft. of timber piles, laying 29.1 track-miles of track, installing 13 turnouts, removing and salvaging 22.8 track miles of existing track, and constructing 28.5 miles of telegraph lines. This work will be done in connection with the Grand Coulee project on the Columbia river.

GREAT NORTHERN.—This road will line a tunnel 1,000 ft. long, near Crater, Wash., with reinforced concrete, at a cost of approximately \$70,000. The work will be done this summer by company forces.

MACON, DUBLIN & SAVANNAH.—A contract has been awarded the Ross & White Co., Chicago, for a Red Devil engine coaler to be installed at Macon, Ga.

NEW YORK CENTRAL.—A contract has been awarded to the Duffy Construction Corp., New York, for necessary repairs to a building at 46 Tenth avenue, New York, which was recently damaged by fire.

SOUTHERN.—A contract has been awarded the Ross & White Co., Chicago, for the design and construction of an N. & W. type electric cinder plant and locomotive coaler at Charleston, S. C.

Continued on next left-hand page



*Let's ask a man who knows...*



### **... CALL IN AN ARCHITECT!**

Sound advice if you are contemplating building. But equally sound advice is: "Call in The Superheater Company when you want to know the superheater that best suits the locomotive for your operating conditions."

The design of a superheater that will be most effective involves problems that are best solved by engineers who have studied them for 30 years—the engineers of The Superheater Company.



SUPERHEATERS • FEEDWATER HEATERS  
AMERICAN THROTTLES • STEAM DRYERS  
EXHAUST STEAM INJECTORS • PYROMETERS

THE  
**SUPERHEATER**  
C O M P A N Y

Representative of  
AMERICAN THROTTLE COMPANY, INC.  
60 East 42nd Street, NEW YORK  
122 S. Michigan Ave. CHICAGO

Montreal, Canada  
THE SUPERHEATER COMPANY, LTD.

## Financial

**BALTIMORE & OHIO.—Hearing on Reading Dividends.**—Holders of \$50,000,000 of 5-year, 4½ per cent secured notes of this road have been notified by the United States district court for Maryland that a hearing will be held on July 16, at Baltimore, Md., relating to the disposition of certain dividends to be received by the trustee for the notes on first preferred, second preferred and common stock of the Reading held as part of the security under the note indenture.

**BOSTON & MAINE.—Acquisition.**—This company has asked the Interstate Commerce Commission for authority to acquire control of the following companies through purchase of their capital stock: Concord & Portsmouth, Wilton, Peterborough, and Pemigewasset Valley. The B. & M. has operated these companies through lease for many years.

**BOSTON & MAINE.—Operating Agreement.**—This company and the Vermont Valley have asked authority from the Interstate Commerce Commission to extend from July 1, 1940 to July 1, 1950 an agreement between these companies providing for the operation of the property of the latter by the former.

**CHICAGO & ILLINOIS MIDLAND.—Securities.**—This company has been authorized by Division 4 of the Interstate Commerce Commission to issue \$2,000,000 of its 2¼ per cent unsecured serial notes; \$2,150,000 of its four per cent unsecured serial notes; \$2,150,000 of its five per cent unsecured serial notes; and \$1,000,000 in par amount of additional capital stock. The proceeds of these securities will be used to redeem outstanding indebtedness aggregating \$6,950,000, and to reimburse the company's treasury to the extent of \$350,000 for expenditures heretofore made in retiring first mortgage bonds.

**CHICAGO, MILWAUKEE, ST. PAUL & PACIFIC.—Reorganization.**—The Interstate Commerce Commission has issued a supplemental report making certain revisions in its recently-promulgated final plan of reorganization for this company under section 77 of the Bankruptcy Act.

The only change affecting the allocation of securities was one providing that the Chicago-Milwaukee & Gary bondholders shall receive 75 per cent of their claims including interest, in new preferred stock, on the basis of \$100 par value of preferred stock for each \$100 of claim, and the remaining 25 per cent of claim in new common stock on the basis of one share for each \$100 of claim. Under the original final plan these bondholders were allocated only new common stock for their claim.

**HUDSON & MANHATTAN.—Fare Increase.**—The federal district court at New York, N. J., in a decision dated June 17, upheld the Interstate Commerce Commission in its decision of July 11, 1938, allowing this road a fare of eight cents between stations in Jersey City, N. J., Hoboken and downtown New York but rejecting its re-

quest for a ten-cent fare for the same movement.

**MIDDLETOWN & UNIONVILLE.—Bonds.**—This company has been granted authority to extend from November 1, 1943, to November 1, 1963, the maturity of \$200,000 of first mortgage 20-year six per cent gold bonds and the maturity of \$165,500 of 20-year adjustment mortgage six per cent income gold bonds; interest during the extended period to be payable on the first mortgage bonds at the rate of four per cent per year and on the adjustment mortgage bonds at the rate of three per cent per year.

**MINNEAPOLIS & ST. LOUIS.—Revival of Reorganization Plan.**—Jesse Jones, Federal Loan Administrator, predicted at his press conference on June 13 that this company has a "fair chance" of getting Interstate Commerce Commission approval for a plan of reorganization which would again divide the road into two parts with the Reconstruction Finance Corporation loaning the eastern half of the road \$4,000,000. Recently the commission refused to approve a similar plan which also divided the road into two segments. Mr. Jones said he felt the commission might approve this latest attempt to solve the road's financial problem. He also pointed out that this plan would set up a reserve for the company having the western segment so that its chances of survival would be greater.

**MINNEAPOLIS, ST. PAUL & SAULT STE. MARIE-DULUTH, SOUTH SHORE & ATLANTIC.—Joint Operation.**—For want of jurisdiction Division 4 of the Interstate Commerce Commission has dismissed the application of these two companies for authority to operate over a bridge between Sault Ste. Marie, Mich., and Sault Ste. Marie, Ontario.

**MOBILE & OHIO.—Merger.**—The proposed merger of the Mobile & Ohio and the Gulf, Mobile & Northern neared the final stages on June 16 when the district court at Mobile, Ala., handed down the final judgment and order of foreclosure of all property of the Mobile & Ohio and placed an upset value on all properties to be auctioned. The court also approved the \$3,625,000 improvement program petitioned by the receivers of the M. & O.

**UTAH IDAHO CENTRAL.—Purchase.**—Division 4 of the Interstate Commerce Commission has authorized the Utah Idaho Central Railroad Corporation, a new company, to purchase and operate the properties of the Utah Idaho Central Railroad Company, which has recently been reorganized.

### Average Prices of Stocks and Bonds

	June 18	Last week	Last year
Average price of 20 representative railway stocks..	27.18	25.15	28.62
Average price of 20 representative railway bonds..	53.06	51.49	59.07

### Dividends Declared

Allegheny & Western.—\$3.00, semi-annually, payable July 1 to holders of record June 20.  
 Mahoning Coal R. R.—\$7.50; Preferred, \$1.25, semi-annually, both payable July 1 to holders of record June 25.  
 Providence & Worcester.—\$1.50, payable July 2 to holders of record June 12.

## Railway Officers

### EXECUTIVE

**E. H. Holden**, general superintendent of transportation of the Kansas City Southern, with headquarters at Kansas City, Mo., has been appointed assistant to the executive vice-president and assigned special duties.

**Ralph B. M. Burke**, superintendent of stations and transfers, New York zone of the Pennsylvania, has been appointed vice-president of the Harborside Warehouse Company, Inc., and manager of the Pennsylvania's warehouses throughout the System.

**W. H. Guild**, general manager of the South-Central district of the Union Pacific, with headquarters at Salt Lake City, Utah, has been promoted to vice-president



W. H. Guild

in charge of operations, with headquarters at Omaha, Neb., succeeding **Newton A. Williams**, who retired on June 16, because of illness.

Mr. Guild was born in Omaha on October 25, 1883, and entered railway service in 1899 as an office boy in the office of the superintendent of transportation of the Union Pacific at Omaha. In 1903 he became secretary to the general superintendent and then, until 1915, held various clerical positions. In the latter year he became chief clerk to the general manager and in 1918 was promoted to assistant to the general manager. He held the latter position until 1922, when he was promoted to assistant to the vice-president, which position he held until 1928, when he was made general superintendent, with headquarters at Kansas City, Mo. He held the latter position until December 1, 1936, when he was promoted to executive assistant, with headquarters in Denver, and on April 1, 1938, he was advanced to general manager of the South-Central district, with headquarters at Salt Lake City.

Mr. Williams was born on a farm near Laclede, Mo., on March 29, 1878, and worked on his father's farm until he was 20 years of age. In July, 1888, he became a section hand on the Hannibal & St. Joseph (now part of the Chicago, Burling-

Continued on next left-hand page





"A.W." Slotted Super-Diamond Floor Plate Running Board—for safety, durability and economy.

## Now—for quick draining . . .

"A.W." Slotted Type Super-Diamond Running Boards meet the demand for safe, permanent, rapid draining running boards on all types of freight-rolling stock. Made from solid steel plate, minimizing possibilities for corrosion and giving maximum service during life of car. The arrangement of slots insures additional protection against costly slips and falls. Slots are hand-hold size for extra security. For complete facts on "A.W." Slotted Type Super-Diamond Running Boards, write us today.

## ALAN WOOD STEEL COMPANY

MAIN OFFICE AND MILLS, CONSHOHOCKEN, PENNA. : : SINCE 1826 : : DISTRICT OFFICES AND REPRESENTATIVES—Philadelphia, New York, Boston, Atlanta, Buffalo, Chicago, Cincinnati, Cleveland, Denver, Detroit, Houston, New Orleans, St. Paul, Pittsburgh, Roanoke, Sanford, N.C., St. Louis, Los Angeles, San Francisco, Seattle, Montreal—A. C. Leslie & Co. PRODUCTS INCLUDE—Steel Products in Carbon, Copper or Alloy Analyses : : Sheared Steel Plates : : Hot Rolled Sheets and Strip : : "A.W." Rolled Steel Floor Plates : : Billets, Blooms and Slabs : : "Swede" Pig Iron : : Reading Cut Nails.

ton & Quincy) and a few months later he entered train service on the same road as a brakeman. In January, 1902, he went with the Denver & Rio Grande as a brakeman and the following year he was advanced to conductor. Mr. Williams was promoted to assistant superintendent of the Salt Lake division, with headquarters at Salt Lake City, Utah, in August, 1909, and a year later he was advanced to superintendent of that division. In March, 1912, he was transferred to the Green River division, with headquarters at Helper, Utah, and two years later he resigned to engage in business. In 1916, he returned to railroad service as a trainmaster on the Union Pacific at Grand Island, Neb., and the following year he was promoted to assistant superintendent at Kansas City, Mo. In 1918, he was advanced to superintendent of the Western division, with headquarters at Green River, Wyo. In 1922, Mr. Williams was transferred to the Wyoming division and a short time later he was appointed general superintendent of the Los Angeles & Salt Lake, with headquarters at Los Angeles, Cal. In 1925, he was transferred to the Northern district of the Union Pa-



Newton A. Williams

cific, with headquarters at Cheyenne, Wyo., and on October 31, 1928, he was promoted to general manager, with headquarters at Omaha. Mr. Williams was advanced to operating vice-president on June 1, 1939, the position he held until his retirement.

### FINANCIAL, LEGAL AND ACCOUNTING

**Sidney F. Blanc**, attorney for the Eastern district of the Chicago, Burlington & Quincy, has been promoted to general attorney, with headquarters as before at Chicago, succeeding to the duties of **Karl W. Fischer**, land and tax commissioner, who has been granted a leave of absence for special government service in Washington, D. C. **Andrew C. Scott**, assistant to general solicitor, has been appointed attorney, Eastern district, replacing Mr. Blanc.

**Walter P. Reeves**, accounting assistant to the executive vice-president of the Maine Central, with headquarters at Portland, Me., has been appointed comptroller and treasurer, at Portland, succeeding **A. J. Raynes**, deceased. Mr. Reeves was born on March 12, 1884, at Portland. He en-

tered railroad service in July, 1901 as clerk on the Maine Central, serving in this capacity until 1910, when he became secre-



Walter P. Reeves

tary to second vice-president and comptroller. In 1912, he was granted a leave of absence because of illness, returning to the employ of the Maine Central in 1913 as a clerk. He was appointed chief clerk to auditor in 1916, becoming assistant to federal auditor in 1918. Mr. Reeves became assistant to the assistant comptroller in 1920, and in 1922, he was promoted to assistant comptroller. In 1934, he was appointed accounting assistant to the executive vice-president, which position he held at the time of his recent appointment.

### OPERATING

**M. I. Dunn, Jr.**, trainmaster of the Chesapeake & Ohio, at St. Albans, W. Va., has been transferred to the Chicago division, with headquarters at Peru, Ind., succeeding **J. R. Cary, Jr.**

**Paul W. Neff**, superintendent of the Monongahela division of the Pennsylvania, with headquarters at Pittsburgh, Pa., has been transferred to the Pan Handle division, with the same headquarters, succeeding **Charles G. Grove**, whose promotion to engineer maintenance of way of the Southwestern General division, with headquarters at Indianapolis, Ind., is announced elsewhere in these columns. **James L. Cranwell**, division engineer of the Eastern division, with headquarters at Pittsburgh, has been promoted to superintendent of the Monongahela division.

**C. D. Merrill**, superintendent of stations and transfers of the Pennsylvania at Philadelphia, Pa., has been appointed superintendent of the Williamsport division, and **J. C. Stewart**, has been appointed superintendent of stations and transfers, succeeding Mr. Merrill. **H. A. Sides**, freight agent at Baltimore, Md., has been appointed superintendent of stations and transfers, New York zone, succeeding **Ralph B. M. Burke**. In addition to his new position, Mr. Sides will also perform the duties of agent, passenger and baggage, at Pennsylvania Station, New York.

**F. E. Carey**, chief dispatcher on the Portage-Brandon division of the Canadian National at Winnipeg, Man., has been promoted to superintendent of transportation,

British Columbia district, with headquarters at Vancouver, B. C., succeeding **I. L. Boomer**, who retired on June 11. Mr. Boomer was born in Nova Scotia on June 10, 1875, and entered railway service on March 5, 1891, with the Intercolonial (now part of the Canadian National) serving this road for ten years as a telegraph operator, agent and train dispatcher. At the end of this period he resigned to become a trainmaster on the Sydney & Louisburg. Two years later, he returned to the Canadian National as a train dispatcher. During the next 28 years Mr. Boomer was advanced through the positions of trainmaster, chief train dispatcher, assistant division superintendent, inspector of transportation, division superintendent and assistant to the general superintendent of transportation, serving in these positions at Montreal, Que., Toronto, Ont., Winnipeg, and other points. Mr. Boomer was appointed superintendent of transportation of the British Columbia district in October, 1932, the position he held until his retirement.

**C. E. McCarty**, superintendent on the Kansas City Southern, with headquarters at Pittsburg, Kan., has been promoted to general superintendent of transportation, with headquarters at Kansas City, Mo., succeeding **E. H. Holden**, whose appointment as assistant to the executive vice-president is announced elsewhere in these columns. The jurisdiction of **F. H. Hooper**, superintendent, with headquarters at Shreveport, La., has been extended over all Kansas City Southern lines except the Kansas City (Mo.), Shreveport and Port Arthur (Tex.) terminals. The Shreveport terminals have been placed under the jurisdiction of **N. Johnson**, superintendent of the Louisiana & Arkansas, with headquarters at Shreveport, La.

Mr. McCarty entered the service of the K. C. S. as timekeeper for an extra gang in 1903, at the age of 17 years. He then served successively as a yard clerk, as a clerk in a local freight office and as traveling auditor until 1908, when he left this company to accept a position with the Chicago, Rock Island & Pacific as traveling auditor, with headquarters at Ft. Worth,



C. E. McCarty

Tex. He returned to the K. C. S. in 1909 as traveling auditor and later served as chief clerk to the superintendent at Texarkana, Tex. Three years later he went



# HSGI Economies in the Stores Dept.



**T**HE long service built into HUNT-SPILLER *Air Furnace* GUN IRON Castings assures big savings in material handling costs as well as locomotive maintenance and fuel consumption.

Stores records show fewer requisitions from the mechanical department. Less stock has to be carried for protection at all points.

The more complete the stock of HSGI Wearing Parts—the greater the economies.



**HUNT-SPILLER MFG. CORPORATION**  
V.W. Ellet Pres. & Gen. Mgr. / E.J. Fuller Vice-President

#### Office & Works

383 Dorchester Ave. South Boston, Mass.  
Canadian Representative: Joseph Robb & Co., Ltd., 5575 Cote St. Paul Rd., Montreal, P. Q.  
Export Agent for Latin America:  
International Rwy. Supply Co., 30 Church Street, New York, N. Y.

# HUNT-SPILLER GUN IRON

*Air Furnace*

with the Baltimore & Ohio as assistant trainmaster at Cumberland, Md., leaving this company in 1917 to enlist in the Eleventh Engineers of the United States Army, being commissioned a first lieutenant in France in 1918. While in France he acted as general yardmaster at Gievres, and in March, 1919, he went with his railway outfit to North Russia to operate the Murman Railway. After his discharge from the army, Mr. McCarty engaged in other business for several years, returning to the Kansas City Southern in November, 1925, as inspector of transportation. In June, 1935, he was promoted to superintendent of terminals at Kansas City and on June 1, 1937, he was appointed also superintendent of the Northern division, with headquarters at Pittsburg, Kan.

**O. H. Page**, general superintendent of the Atlantic Coast Line, has been appointed supervisor of transfers, with headquarters as before at Savannah, Ga. **F. B. Langley**, superintendent of transportation at Jacksonville, Fla., has been appointed general superintendent, Northern division, with headquarters at Savannah. Mr. Langley was born on June 4, 1885, at Camp



**F. B. Langley**

Hill, Ala. He was educated in the Southern Industrial Institute at Camp Hill; and in 1901, he commenced his railway career with the Central of Georgia. He became connected with the Atlantic Coast Line in 1907, in agency, telegraph and dispatching service at Wilmington, N. C. In July, 1917, he was appointed trainmaster of the Jacksonville district, with headquarters at Sanford, Fla. Later in 1917, he was promoted to superintendent and served in that capacity on the Tampa, Gainesville and Ocala districts, respectively. In April, 1930, Mr. Langley was appointed superintendent of transportation, with headquarters at Jacksonville, which position he held at the time of his recent appointment.

**George F. Linster**, whose promotion to superintendent of telegraph of the St. Louis-San Francisco, with headquarters at Springfield, Mo., was announced in the *Railway Age* of June 1, was born at Savannah, N. Y., on May 20, 1879, and entered railway service on September 1, 1896, as a night operator on the Rome, Watertown & Ogdensburg (now part of the New York Central) at DeKalb, N. Y. Ten days later he went with the New York Central

at Savannah as a night operator, and on June 4, 1897, he was transferred to the signal department as towerman-telegrapher at Fox Ridge, N. Y. On January 1, 1898, he returned to the R. W. & O. as an oper-



**George F. Linster**

ator, serving first at Canton, N. Y., and later at Richard Junction, N. Y. In September, 1899, he went with the Lehigh Valley as a relay operator at Sayre, Pa., and on January 3, 1903, he entered Frisco service as an operator at Neodesha, Kan., being transferred to Monett, Mo., on April 1, 1903, and to the general relay office at Springfield on June 26, 1903. Mr. Linster was later advanced to night chief operator, and on July 4, 1907, he was promoted to manager and wire chief at Ft. Scott, Kan. On April 1, 1918, he was advanced to assistant superintendent of telegraph, with headquarters at Springfield. On June 1, 1932, the position of assistant superintendent of telegraph was abolished and until February 15, 1938, when the position was re-established, Mr. Linster served as an operator in the general relay office at Springfield. His promotion to superintendent of telegraph was effective June 1.

**F. H. Knickerbocker**, acting general manager on the Union Pacific, with headquarters at Portland, Ore., has been promoted to general manager of the South-Central district, with headquarters at Salt



**F. H. Knickerbocker**

Lake City, Utah, succeeding **W. H. Guild**, whose promotion to vice-president in charge of operations, with headquarters at Omaha, Neb., is announced elsewhere in

these columns. **J. C. Albright**, division superintendent, with headquarters at Spokane, Wash., has been appointed acting general manager at Portland, relieving Mr. Knickerbocker.

Mr. Knickerbocker was born at Chicago on December 10, 1875, and entered railway service in 1897, as a stenographer in the general freight department of the Oregon Short Line (part of the U. P. System) at Salt Lake City, Utah. Three years later he was advanced to secretary to the general superintendent and in 1902, he was made secretary to the vice-president and general manager. After six years in that capacity, he was further promoted to assistant to the vice-president and general manager and in 1916 he was made general superintendent, with headquarters at Pocatello, Idaho. In 1922 Mr. Knickerbocker resigned to become general manager of the Alaska Steamship Company and the Copper River & North Western, with headquarters at Seattle. In 1924, he returned to the Union Pacific as general manager, with headquarters at Los Angeles, Cal., and in April, 1937, he was advanced to assistant to the president, with headquarters at Seattle. In the latter part of 1939, he was appointed acting general manager.

## TRAFFIC

**T. P. Toland**, division freight agent of the Seaboard Air Line, with headquarters at Bartow, Fla., has retired after 33 years of service, because of illness.

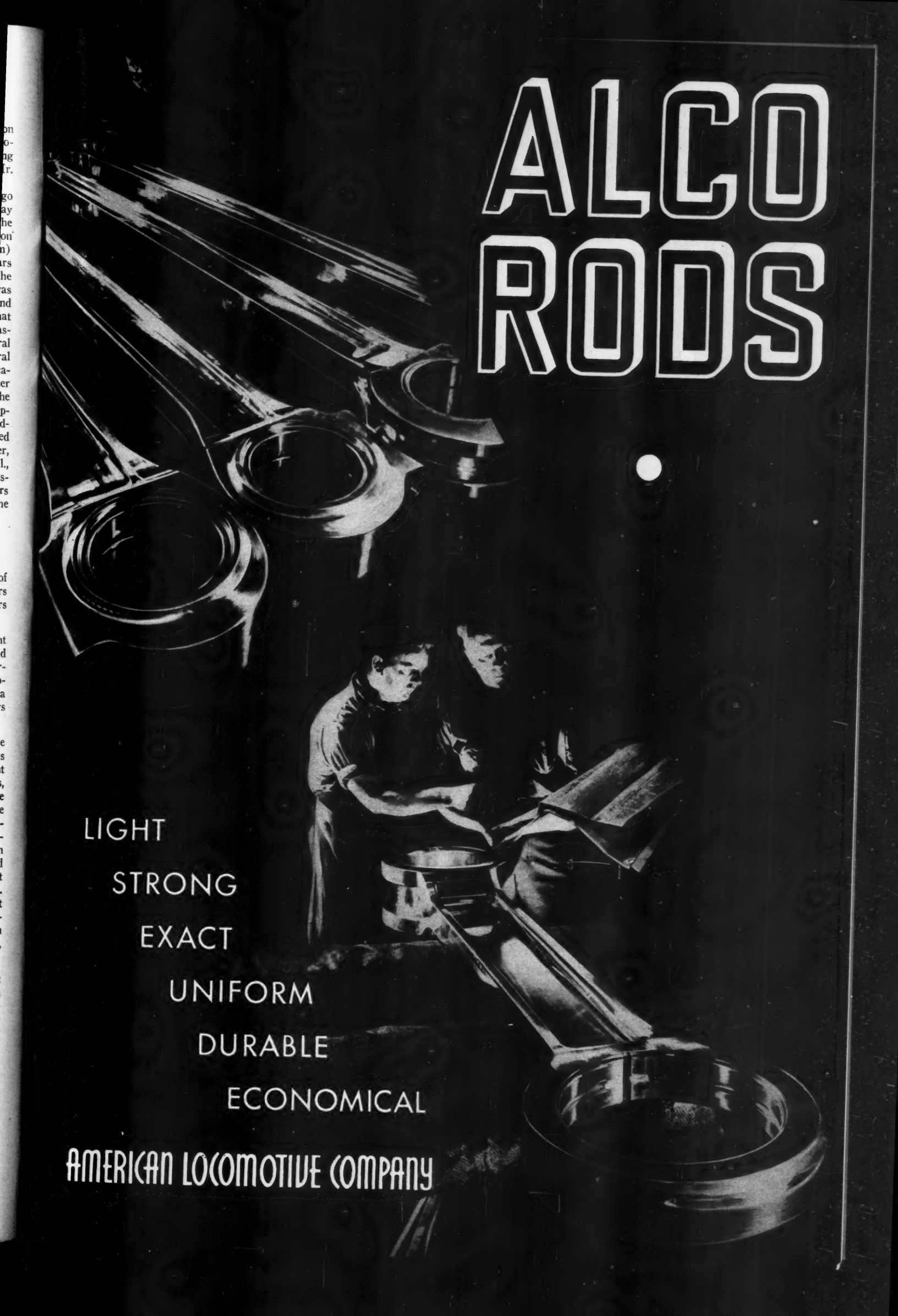
**W. C. Clark**, assistant general freight agent on the Kansas City Southern and the Louisiana & Arkansas, with headquarters at Kansas City, Mo., has been promoted to passenger traffic manager, a newly created position, with headquarters at Shreveport, La.

**E. C. Warren**, general agent on the Great Northern at Spokane, Wash., has been promoted to assistant general freight agent, with headquarters at Minneapolis, Minn., succeeding **S. A. Volkman**, whose death on June 7, was announced in the *Railway Age* of June 15. **W. E. Nicholson**, general agent for the Chicago, Burlington & Quincy and the Great Northern at Sioux City, Iowa, has been appointed general agent for the Great Northern at Spokane, replacing Mr. Warren, and **S. J. Anderson**, city freight agent on the Great Northern at Seattle, Wash., has been promoted to general agent for the Burlington and the Great Northern at Sioux City, relieving Mr. Nicholson.

**E. B. Lawrence**, general eastern freight agent of the Atlantic Coast Line, with headquarters at New York, has been appointed assistant traffic manager at Jacksonville, Fla. **J. H. Hatcher**, assistant general freight agent at Miami, Fla., has been appointed general eastern freight agent, with headquarters at New York. **R. P. Jobb**, general agent at Atlanta, Ga., has been appointed assistant general freight agent, with headquarters at Miami, and **C. H. Battle** has been appointed general agent, with headquarters at Atlanta.

**Charles E. Muller**, whose appointment as assistant chief freight traffic officer of





# ALCO RODS

LIGHT

STRONG

EXACT

UNIFORM

DURABLE

ECONOMICAL

AMERICAN LOCOMOTIVE COMPANY

the Seaboard Air Line, with headquarters at Norfolk, Va., was announced in the *Railway Age* of June 8, was born on June 17, 1884, at Baltimore, Md. He entered railroad service on January 1, 1900 as a notice carrier with the Balto Steam Packet Company (Old Bay Line), with headquarters at Baltimore, in which city he was located for 18 years. In May, 1900, he was appointed truck clerk, becoming messenger in September, 1900, and bill clerk in June, 1901. Mr. Muller was appointed chief bill clerk in June, 1903, and on March 1, 1905, he went with the Seaboard Air Line as soliciting freight agent. On August 1, 1906, he became contracting freight agent, becoming general agent on January 1, 1914. On March 1, 1918, he went to Savannah, Ga., in the capacity of acting assistant general freight agent, and was appointed assistant general freight agent on June 1, 1918. He was transferred to Jacksonville, Fla., on March 1, 1920, and on September 1, 1920, was appointed assistant freight traffic manager there. On September 1, 1927, he left the Seaboard Air Line to become secretary of the Jacksonville Chamber of Commerce, returning



Charles E. Muller

to the railroad on May 1, 1931, as freight traffic manager, with headquarters at Norfolk, Va., in which capacity he remained until his recent appointment.

**Fred Herbert Bryant**, whose appointment as freight traffic manager of the Seaboard Air Line, with headquarters at Norfolk, Va., was announced in the *Railway Age* of June 8, was born on May 31, 1894, at Olive Hill, Ky. He entered railroad service in August, 1911, as clerk with the Seaboard Air Line, with headquarters at Piedmont, Ala. In September, 1911, he went with the Georgia & Florida as clerk at Garfield, Ga., becoming operator at Vidalia, Ga., on January 1, 1912. On July 1, 1912, Mr. Bryant re-entered the service of the Seaboard Air Line as operator at Vidalia, being transferred to Montgomery, Ala., on July 31, 1912, and to Savannah, Ga., in October, 1914. In November, 1914, he became car clerk and operator at Columbus, Ga., and in September, 1915, was appointed cashier and operator, also at Columbus. He was employed as rate clerk and operator at Columbus, from October, 1916, to September, 1917, at which time he was advanced to chief rate clerk, with

headquarters at Tampa, Fla. In November, 1917, Mr. Bryant was appointed chief bill clerk at Savannah, and then chief clerk



Fred Herbert Bryant

at Columbus in August, 1918. From March, 1920, to July of the same year, he was traveling freight inspector at Atlanta, Ga., then becoming commercial agent, with headquarters at Greenville, S. C. In December, 1925, he was transferred to Orlando, Fla., and in November, 1926, became district freight agent at Orlando. In June, 1929, Mr. Bryant was appointed assistant freight traffic manager at Jacksonville, Fla., and on August 1, 1936, he was transferred as assistant freight traffic manager of on-line solicitation to Norfolk, which position he held until his recent appointment.

**W. McL. Pomeroy**, assistant to the general traffic manager of the Pennsylvania, has been advanced to assistant general traffic manager, with headquarters as before at Philadelphia, Pa., succeeding **C. T. Mackenson, Jr.**, deceased. **Fred Carpi**, general freight agent at Philadelphia, has been promoted to assistant to the general traffic manager, with the same headquarters. **Earl W. Fisher**, general



I. T. Marine

freight agent at Chicago, has been advanced to assistant to the general traffic manager at Philadelphia. **I. T. Marine**, general western freight agent at Chicago, has been promoted to general freight agent

at that point, replacing Mr. Fisher, and **Benjamin D. Rhodes**, assistant general freight agent at St. Louis, Mo., has been advanced to general western freight agent at Chicago, relieving Mr. Marine. **Christy G. Magruder**, district freight agent at Canton, Ohio, has been promoted to division freight agent at St. Louis. **T. W. Preston**, division freight agent on special duty at Philadelphia, has been advanced to assistant general freight agent at Philadelphia. **G. K. Foster**, district freight agent at Akron, Ohio, has been promoted to division freight agent at Williamsport, Pa., succeeding **J. J. Dunn**, deceased.

Mr. Marine was born in Philadelphia on June 15, 1898, and entered the service of the Pennsylvania as a clerk at Morrisville, Pa., on October 26, 1914. He later became an account clerk and on July 22, 1918, was furloughed for military duty. Returning to the Pennsylvania on August 29, 1919, he advanced in the service, going to New York in 1920, and becoming a freight representative the following year. Mr. Marine was promoted to assistant foreign freight agent at New York in 1931, became freight representative in 1932, served as chief clerk at Harrisburg, Pa., and New York in 1934, and was promoted to division freight agent at Cincinnati on May 1, 1936. He was transferred to Youngstown, Ohio on April 16, 1938, and was advanced to general western freight agent at Chicago on October 1, 1938, the position he held until his recent promotion, which was effective June 16.

## ENGINEERING AND SIGNALING

**W. A. Blackwell** has been appointed assistant engineer maintenance of way of the Western Maryland, with headquarters at Baltimore, Md.

**C. W. Van Nort**, division superintendent of the Pennsylvania, with headquarters at Williamsport, Pa., has been appointed engineer maintenance of way of the Central Pennsylvania division.

**R. R. Metheany**, engineer, maintenance of way of the Central Pennsylvania division of the Pennsylvania, has been appointed assistant to chief engineer, maintenance of way, with headquarters at Philadelphia, Pa.

**Ralph H. Pinkham**, engineer maintenance of way of the Southwestern General division of the Pennsylvania, with headquarters at Indianapolis, Ind., has been promoted to assistant to the chief engineer maintenance of way of the Western region, with headquarters at Chicago, a newly created position. **Charles G. Grove**, superintendent of the Pan Handle division, with headquarters at Pittsburgh, Pa., has been advanced to engineer maintenance of way of the Southwestern General division, with headquarters at Indianapolis, succeeding Mr. Pinkham.

Mr. Grove was born in York County, Pa., in December, 1890, and graduated from Pennsylvania State College in 1912. In June of that year he entered the service of the Pennsylvania as a rodman at Philadelphia. He also served in various



# MAKE THIS YOUR HEADQUARTERS

## WHEN YOU VISIT THE NEW YORK WORLD'S FAIR

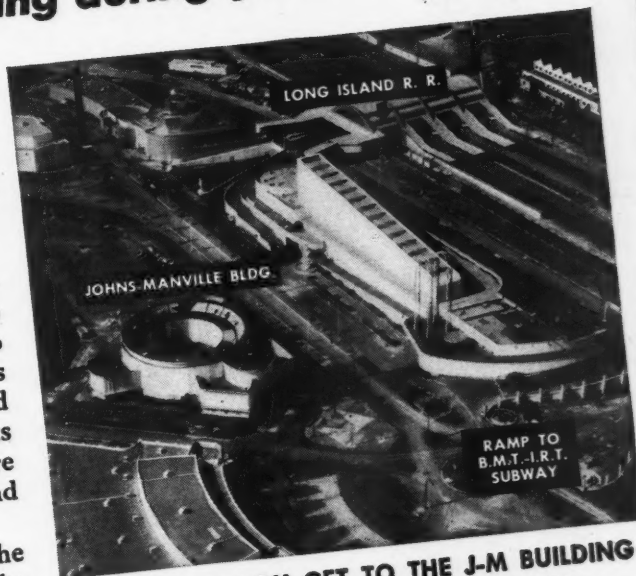


**Come right to the Johns-Manville Building . . .  
make it YOUR building during your stay**

**L**OCATED opposite the Long Island Railroad and the B.M.T.-I.R.T. Subway station entrances, the Johns-Manville Building provides the most convenient place on the Fairgrounds for you to meet your friends.

While you wait, you can rest in the air-conditioned lounge. Or, if you'd like to watch an actual broadcast, you can do so almost any time during the day in J-M's cool, comfortable radio theatre. And you'll have an opportunity to see exhibits of the various J-M Products that are helping railroads increase efficiency and lower costs.

Just introduce yourself to one of the attendants when you arrive. You'll be most welcome.



**HERE'S HOW YOU GET TO THE J-M BUILDING  
AT THE NEW YORK WORLD'S FAIR**



# Johns-Manville

## 82 Years of Service to Transportation

June 22, 1940

capacities in the maintenance of way department prior to his advancement in 1917 to assistant supervisor at Philadelphia. He later served in that capacity on the Allegheny and Pittsburgh divisions. Mr. Grove was promoted to supervisor of track in 1920 and served on the Monongahela, Western Pennsylvania, Pittsburgh, Buffalo and Eastern Ohio divisions prior to his advancement to division engineer of the St. Louis division on November 16, 1928. Five



**Charles G. Grove**

years later, he was transferred to the Pan Handle division, with headquarters at Pittsburgh, and was promoted to superintendent of the Wilkes-Barre division on July 1, 1933. He was made superintendent of passenger transportation, Eastern region, with headquarters at Philadelphia, on October 1, 1934; was made superintendent of the Williamsport division on May 1, 1936, and became superintendent of the Pan Handle division on February 1, 1937, the position he held until his recent promotion which was effective June 16.

#### MECHANICAL

**J. H. Armstrong**, general foreman of the locomotive shop of the Atchison, Topeka & Santa Fe, at Topeka, Kan., has been promoted to superintendent of shops, with the same headquarters, succeeding **Howard H. Stephens**, who has retired.

**George Sanders**, general foreman, mechanical department of the Union Railroad, has been appointed master mechanic, with headquarters at East Pittsburgh, Pa. **Albert H. Bair**, pipefitter foreman, succeeds Mr. Sanders as general foreman, mechanical department.

#### PURCHASES AND STORES

**R. F. Durvin** has been appointed stationer of the Southern, with headquarters at Atlanta, Ga., succeeding **D. O. Cogbill**, deceased.

**William F. Redman**, traveling storekeeper on the Chicago & North Western, with headquarters at Kaukauna, Wis., has retired after 40 years of service.

#### OBITUARY

**Charles J. Wymer**, who retired on July 1, 1938, as superintendent of the car

department of the Chicago & Eastern Illinois, with headquarters at Danville, Ill., died at that point on June 16, after several months illness following a light stroke. Mr. Wymer entered railroad service in 1891 with the Atchison, Topeka & Santa Fe. He later became connected with the car inspecting department of the Chicago & Eastern Illinois, resigning as general car inspector in 1912. He was then appointed general car foreman on the Belt Railroad of Chicago. In May, 1916, he was appointed sales representative at the Chicago office of the Grip Nut Company and in September, 1919, he returned to the C. & E. I. as superintendent of the car department, with headquarters at Danville, the position he held until his retirement. Mr. Wymer served as president of the Master Car Builders and Supervisors Association in 1929-30, and as second vice-president of the Western Railway Club, Chicago, in 1932-33.

**Lincoln Green**, assistant to president of the Southern who retired in 1938, died on June 19, at the age of 77.

**George H. Foster**, vice-president in charge of the operating department of the Lehigh Valley, with headquarters at New York, who retired in December, 1938, died on June 17 at the age of 64. Mr. Foster was born on March 5, 1876, at New York City, and attended Harvard University (A. B. and A. M. 1899) and New York Law School (LL.B. 1902). He entered railway service on January 1, 1904, with the Le-



**George H. Foster**

high Valley and served as general land and tax agent until April, 1918, when he became assistant to the federal manager. From 1920 to 1926, Mr. Foster served as assistant to vice-president and became acting vice-president in 1926. The following year, Mr. Foster became operating vice-president, which position he held until his retirement.

**Michael Hall Dorsett**, freight traffic manager of the Atlantic Coast Line, with headquarters at Jacksonville, Fla., whose death was announced in the *Railway Age* of June 8, was born on June 12, 1885, at Macon, Ga. He entered railroad service in 1901 as messenger in the Macon freight offices of the Central of Georgia. On October 1, 1906, Mr. Dorsett went with the

Atlantic Coast Line as soliciting agent, also at Macon, in which capacity he served until 1917, when he entered the service of the United States Army, serving overseas until 1919. From 1919 until 1923, he was



**Michael Hall Dorsett**

engaged in private business, re-entering the service of the Atlantic Coast Line on February 10, 1923, as commercial agent at Palmetto, Fla. On November 15, 1924, Mr. Dorsett became general agent at Palmetto, becoming assistant general freight agent at Tampa, Fla., on March 1, 1926. He became assistant freight traffic manager at Tampa on December 15, 1932, and was transferred to Wilmington, N. C. on September 1, 1934. On July 1, 1935, Mr. Dorsett was appointed freight traffic manager, with headquarters at Jacksonville, the position he held at the time of his death.

**Claud H. Guion**, freight traffic manager on the Missouri Pacific, with headquarters at St. Louis, Mo., whose death on June 9, was announced in the *Railway Age* of June 15, entered Missouri Pacific service in 1920 as an assistant general freight agent at Houston, Tex. On January 1, 1927, he was promoted to freight



**Claud H. Guion**

traffic manager of the Gulf Coast Lines (a unit of the Missouri Pacific lines). On November 15, 1932, he was made assistant freight traffic manager of the Missouri Pacific Lines, with headquarters at St. Louis, Mo. Mr. Guion was promoted to freight traffic manager, with headquarters at St. Louis, in November, 1936, the position he held until his death.